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Risk Factors For Anemia In Pregnant Women

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ABSTRACT

Anemia is a condition of decreased hemoglobin, hematocrit and erythrocyte count below normal values. Anemia in pregnancy is called "Potential Danger to Mother and Child" which plays a role in increasing the prevalence of maternal mortality and morbidity. In pregnancy, pregnant women are said to be anemic if the hemoglobin concentration is less than 11.0 g/dL in the first trimester and less than 10.5 or 11.0 g/dL in the second or third trimester (depending on the guidelines used). Risk factors for anemia in pregnant women are divided into 3 basic factors, namely socioeconomic conditions, education and knowledge, indirect factors, namely ANC visits, parity, nutritional status, age and pregnancy distance, and direct factors of iron (Fe) tablet consumption patterns, infectious diseases and bleeding.

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1. INTRODUCTION

Anemia is a condition where there is a decrease in hemoglobin levels, hematocrit and the number of erythrocytes below normal values. 1,2,3 In people with anemia, more often called anemia, red blood cell (Hb) levels are below normal values. The cause is a lack of iron for blood formation.

Anemia that often occurs is anemia in pregnant women. Anemia in pregnancy is the biggest public health problem that occurs throughout the world, especially in developing countries, in low socio-economic groups and has a very large impact on the quality of human resources. Anemia in pregnancy is called "Potential Danger to Mother and Child" which plays a role in increasing the prevalence of maternal mortality and morbidity. Meanwhile, in babies it can increase the risk of infant morbidity and death, as well as increase the incidence of LBW.

Indonesia's Maternal Mortality Rate (MMR) is relatively high compared to other countries in ASEAN. Based on the 2012 Indonesian Health Demographic Survey (SDKI), it reached 359 per 100 thousand live births, an increase from the previous survey in 2007, namely 228 per 100 thousand live births. Based on data from the World Health Organization (WHO), anemia in pregnant women is categorized as a global health problem with a prevalence of 29.6% in 2018, where in Indonesia itself from 2017 to 2019 the prevalence of anemia in pregnant women has increased, namely from 43.2% to 44.2%. Meanwhile, based on Basic Health Research Data (Riskesdas), from 2013 to 2018, it shows that the proportion of anemia in pregnant women has also increased, namely from 37.1% to 48.9%, where in Central Java the incidence of anemia in pregnant women is 43 .5%. Identifying and confirming risk factors for anemia in pregnancy, to prevent further complications that lead to maternal death is very important.

2. METHOD

The method used in this research uses Systematic Literature Review (SLR) to find out the most appropriate method for designing Enterprise Architecture in government agencies. This research applies three stages, namely: planning, implementation, and results analysis, which analyzes the results of the Literature Review that the author has carried out. The planning stage involves formulating the problem that you want to identify. The implementation stage involves the process of collecting papers to conduct a Literature Review. Analysis of the results, namely answering the existing problem formulation sourced from the Literature Review carried out.

3. RESULTS AND DISCUSSION

Anemia in pregnant women

Anemia is defined as a condition where there is a low number of red blood cells, hematocrit, or hemoglobin concentration so that the oxygen that should be distributed to the body's tissues by the blood decreases. This will then cause several symptoms such as fatigue, weakness, dizziness, shortness of breath and others. Anemia is a global health problem that specifically affects young people and pregnant women. WHO also estimates that around 40% of pregnant women throughout the world experience anemia. In pregnancy, pregnant women are said to be anemic if the hemoglobin concentration is less than 11.0 g/dL in the first trimester and less than 10.5 or 11.0 g/dL in the second or third trimester (depending on the guidelines used). Anemia is the most common hematological disorder in pregnancy.

Anemia in pregnancy can be caused by hemodilution, nutritional deficiencies, folic acid deficiency, vitamin B12 deficiency, vitamin A deficiency, iron deficiency, hemoglobinopathy, infectious diseases such as malaria, HIV, and parasitic infections. Iron deficiency is the most common cause of anemia in pregnancy. The American College of Obstetricians and Gynecologists recommends screening for anemia with a complete blood count in the first trimester of pregnancy and at 24 to 29 weeks of gestation. The diagnosis of mild anemia is made if a hemoglobin level of 10.0 g/dL or more is found and the average blood cell volume (MCV) is somewhat low or normal. If such a condition is found then the possible cause is iron deficiency so treatment needs to be done by administering iron orally. If oral administration is not successful, intravenous administration can be given.

Risk factors for anemia in pregnant women

Iron deficiency can reduce an individual's immunity, making them very susceptible to attacks by disease germs. The development of iron deficiency anemia occurs through several levels, each level of which is related to abnormalities in certain indicators. The factors that influence anemia are:

1. **Basic factors**

   Basic factors are factors that underlie the occurrence of anemia in pregnant women.

a. Socioeconomic situation

   Low socio-economic conditions influence the course of pregnancy. This situation is related to poverty, lack of hygiene and sanitation, health problems, and low levels of education. A person's behavior in the health sector is influenced by socio-economic background. This is known because the economic status factor in the families of pregnant women who experience anemia is mostly in the low category. Existing economic limitations make it difficult for pregnant women and their families to consume food that is diverse and has high nutritional value. Some pregnant women are known to have a monotonous eating pattern, namely consuming the same type of food in a row almost every day. Even though pregnant women need to consume a variety of and balanced types of food, namely carbohydrates, protein, fat, vitamins and minerals, the daily menu must be in accordance with the body's needs so that nutritional needs can be easily met.

b. Knowledge

   Anemia is more common in groups of mothers who have less knowledge. In general, people belonging to this group also have a low level of understanding regarding how to prevent and control anemia. Pregnant women's lack of knowledge about anemia can influence their lack of consumption of foods containing iron and lack of understanding of the side effects of Fe tablets, so that mothers tend not to want to consume Fe tablets. The more knowledge a mother has, the more diverse the types of food she consumes so that she can meet nutritional requirements. Iron tablets can cause disturbing side effects, so pregnant women tend to refuse to take the drug.

c. Education

   Education in general is any planned effort to influence other people, both individuals and community groups, so that they do what is expected by educational practitioners. Anemia is a national problem because it reflects the socio-economic welfare of society and has a huge influence on the quality of human resources. The level of education is one of the factors that can influence a person's ability to absorb and understand the knowledge gained. A person's level of education will influence daily food

choices, both attitudes and behavior. The choices made often have an impact on the intake consumed every day, thus affecting the nutritional condition of the individual concerned, including anemia status.

2. Indirect factors

Indirect factors are factors from the underlying causes and basic causes that play an indirect role in the occurrence of anemia in pregnant women.

a. ANC visit

Pregnancy examination or Antenatal Care (ANC) aims to find out and detect health problems during pregnancy, so that the pregnancy can be maintained. In the ANC examination service, mothers receive health education related to pregnancy, such as information on nutrition received during pregnancy, as well as blood supplements during pregnancy. ANC services during pregnancy at least 4 times with examinations called 7T examinations, namely weighing body weight, measuring blood pressure, uterine fundus height, administering TT immunization, administering blood supplement tablets, venereal disease tests, tests for referral preparation figures.

b. Parity

Mothers who often give birth and in subsequent pregnancies rarely pay attention to good diet and nutritional intake during pregnancy which results in mothers experiencing anemia in pregnancy and one of the causes is parity. Parity is an important factor in the incidence of iron anemia in pregnant women. This is because during pregnancy women use up the iron reserves in their body. The impact of anemia in pregnancy can result in abortion and reduced breast milk production.

Parity > 4 can increase the frequency of complications in pregnancy and childbirth, such as increasing the risk of fetal death in the womb and bleeding before and after giving birth which can have fatal consequences, because women who have given birth frequently can result in damage to the blood vessels and vascularization of the uterine wall due to previous birth, resulting in inadequate blood flow to the placenta, which can ultimately reduce its function and affect the circulation of nutrients to the fetus. Having a history of bleeding a lot can cause anemia in subsequent pregnancies.

a. Nutritional status

Anemia can occur due to a lack of nutrition in pregnant women, triggered by a lack of sources of folic acid and iron consumed by pregnant women. Unmet nutritional needs during pregnancy can cause anemia in pregnancy. Anemia in pregnancy plays an important role in increasing the prevalence of maternal and infant mortality and morbidity. The process of absorbing iron in the body is that iron enters the body through food. In body tissues, iron is in the form of functional compounds such as hemoglobin, myoglobin and transport iron compound enzymes, namely in the form of transfein and reserve iron compounds such as furitin and hemosiderin. The process of iron absorption can be disrupted if during pregnancy there are disorders such as emesis and hypermesis. Because of this absorption disorder, a person can experience anemia or iron deficiency during pregnancy, where the need for iron is very important.

Nutritional status is a factor that directly influences a person's nutritional status. Nutritional status can be assessed directly from the quality and quantity of dishes. If the arrangement of dishes meets the body's needs, both in quality and quantity, then the body will have the best possible health condition and good nutritional conditions can be achieved. The nutritional status of pregnant women is that the food consumed by pregnant women must have the appropriate number of calories and nutrients according to their needs, such as carbohydrates, fat, protein, vitamins, minerals, fiber and water..

b. Age

Age is a risk factor for the incidence of anemia in pregnant women. A mother's age is related to female reproduction. A healthy and safe reproductive age is 20 – 35 years. Pregnancy aged < 20 years and over 35 years can cause anemia because in pregnancies aged < 20 years, biologically they are not yet optimal, their emotions tend to be unstable, they are mentally immature so they easily experience shock which results in a lack of attention to meeting nutritional needs during pregnancy. Meanwhile, at age > 35 years it is associated with deterioration and decreased endurance as well as various diseases that often occur.

The ideal age for conceiving and giving birth is 20-35 years, ages <20 years and >35 have a greater risk of suffering from anemia. Pregnant women at a young age or <20 years old need a lot of additional nutrition, because apart from using it for their own growth and development, they also have

to share it with the fetus they are carrying. Meanwhile, those aged >35 years need a lot of energy because the function of the organs is getting weaker and they are required to work optimally, so they need sufficient additional energy to support the ongoing pregnancy. 18

c. Birth Distance

One of the causes that can accelerate the occurrence of anemia in women is short pregnancy intervals. A good pregnancy interval of at least 2 years is very important to pay attention to so that the mother's body is ready to accept the fetus again. Pregnancy spacing of less than 24 months or 2 years means that the mother's condition has not yet recovered, so that the iron in her body is divided for her body's recovery and needs during the next pregnancy.

3. Direct factors

Direct factors are factors from the underlying causes and basic causes that play a direct role in the occurrence of anemia in pregnant women.

a. Iron (Fe) tablet consumption patterns

Iron requirements increase during pregnancy to meet increased fetoplacental requirements, to increase maternal erythrocyte mass, and to compensate for iron losses during delivery. The cause of iron nutritional anemia is due to a lack of iron in the diet, pregnant women's need for Fe increases for the formation of the placenta and red blood cells by 200-300%. The estimated amount of iron that needs to be stockpiled during pregnancy is 1040 mg. Of this amount, 200 mg of Fe is retained by the body during childbirth and the remaining 840 mg is lost. A total of 300 mg of iron is transferred to the fetus, with details of 50-75 mg for placenta formation, 450 mg to increase the number of red blood cells, and 200 mg lost during birth. This amount cannot be fulfilled just by going through 21 diets. Therefore, iron supplementation is very necessary, even in women who are well-nourished**.**

b. Infectious Diseases

Infectious diseases such as tuberculosis, intestinal worms and malaria also cause anemia because they cause increased destruction of red blood cells and disruption of erythrocytes. Worm infections are an important causal factor because their prevalence in Indonesia is quite high, especially hookworms which can cause nutritional anemia, namely causing chronic bleeding. This situation cannot be tolerated by groups whose need for iron is very high, including pregnant women. If the number of worms increases, blood loss will increase, thereby disrupting the iron balance because more iron is excreted than iron entered.

a. Bleeding

The cause of iron anemia is also due to too much iron leaving the body, for example bleeding. Chronic blood loss causes loss of recycled iron, decreased iron stores, and anemia. Usually the symptoms are mild until the anemia reaches a severe level. Acute blood loss is more obvious: actual bleeding, icterus, and tar-like stools may occur depending on the origin and cause of the blood loss.

4. CONCLUSION

Anemia is a condition where the levels of hemoglobin, hematocrit and erythrocyte count decrease below normal values. In people with anemia, more often called anemia, red blood cell (Hb) levels are below normal values. The cause is a lack of iron for blood formation. Anemia is a global health problem that specifically affects young people and pregnant women. WHO also estimates that around 40% of pregnant women throughout the world experience anemia. In pregnancy, a pregnant woman is said to be anemic if the hemoglobin concentration is less than 11.0 g/dL in the first trimester and less than 10.5 or 11.0 g/dL in the second or third trimester (depending on the guidelines used). Anemia is the most common hematological disorder in pregnancy. The risk factors for anemia in pregnant women are divided into 3 basic factors, namely socio-economic conditions, education and knowledge, indirect factors, namely ANC visits, parity, nutritional status, age and pregnancy distance, as well as direct factors, iron (Fe) tablet consumption patterns, infectious diseases. and bleeding.

REFERENCES

[1] Yuli Arisyah Siregar, Haslinah Ahmad, Anto J. Hadi. 2023. Faktor yang Berhubungan dengan Kejadian Anemia pada Ibu Hamil di Puskesmas Rawat Inap Batangtoru Kabupaten Tapanuli Selatan. Media Publikasi Promosi Kesehatan Indonesia. Vol. 6 No. 7

[2] Desak Made Abdi Utami, Ni Ketut Sutiari, Ni Kadek Tresna Adhi, Anak
[3] Agung Sagung Sawitri. 2021. Faktor Risiko yang Berhubungan dengan Anemia Ibu Hamil di Desa Dajan Peken dan Desa Delod Peken Kecamatan Tabanan Tahun 2019. Jurnal Penelitian dan Kajian Ilmiah Kesehatan. Vol 7. No. 1.
[4] Odi Lodia Namangdjabar, Pius Weraman, Ignasensia Dua Mirong. 2022. Faktor Risiko terjadinya Anemia pada Ibu Hamil. Journal of Telenursing (JOTING).
[5] Ani Triana. 2023. Faktor Resiko Kejadian Anemia pada Remaja Putri di Mas PP Nuruddin. Jurnal Ilmiah Ilmu Kesehatan dan Kedokteran (Termometer). Vol.1, No.1.
[6] Liliek Pratiwi, Yane Liswanti, Harnanik Nawangsari. 2022. Anemia pada Ibu Hamil. CV Jejak.
[7] Nurmalina Hutahaean1 Asriwati, Anto J. Hadi. 2020. Analisis Faktor Risiko Anemia pada Ibu Hamil di Klinik Pratama Martua Sudarlis Medan. PROMOTIF: Jurnal Kesehatan Masyarakat. Vol. 10, No. 02.
[8] Hidayah Pramesty Dewi, Mardiana. 2021. Faktor Risiko yang Mempengaruhi Kejadian Anemia pada Ibu Hamil di Wilayah Kerja Puskesmas Nusawungu II Cilacap. Journal of Nutrition College, Vol.10, No. 4.
[9] I Putu Fery Immanuel White, Ardi Munir, Sumarni, Diah Mutiarasari, Miranti Umar, Yosia Kevin Poluan. 2020. Analisis Faktor Resiko Anemia dalam Kehamilan di Rumah Sakit DaerahTerpencil. Healthy Tadulako Journal (Jurnal Kesehatan Tadulako) Vol. 6 No. 2.
[10] Bekti Putri Harwijayanti, israini Suriati, Dian Mahanani dkk. 2022. Pendidikan Ilmu Kebidanan. PT Global Eksekutif Teknologi.
[11] Ellyzabeth Sukmawati, And Ayu Ariesty Ajsal, Agnes Purba dkk. 2023. Epidemiologi Kesehatan Ibu Hamil Berbasis Evidance Based. PT Global Eksekutif Teknologi.
[12] Sri Maywati, Siti Novianti. 2020. Kajian Karakteristik Individu sebagai Faktor Risiko kejadian Anemia pada Ibu Hamil (Studi di Puskesmas Karanganyar Kota Tasikmalaya). Jurnal Kesehatan komunitas Indonesia Vol.16, No. 2.
[13] Roni, Fadli. 2020. Analisis Faktor Resiko Terhadap Kejadian Anemia Pada Ibu Hamil. Jurnal Penelitian Kesehatan Suara Forikes, Vol. 11.
[14] Nur Afni, Dea Pratiwi, Nurul Kodriati, Sitti Nur Djannah, Sunarti, Dyah Suryani. 2023. Faktor – faktor yang berhubungan dengan kejadian anemia pada ibu hamil di puskesmas Gamping 1 Kabupaten Sleman tahun 2022. Jurnal Kedokteran Syiah Kuala Vol. 23, No.1.
[15] Syarfaini , Syamsul Ala, Syahratul Aeni, Habibi, Nur Asmi Noviani. 2019. Faktor Risiko Kerjadian Anemia pada Ibu Hamil di Wilayah Kerja Puskesmas Sudiang Raya Kota Makassar. Al-Sihah : Public Health Science Journal. Vol.11, No. 2.
[16] Husnul Khatimah, Dewi Setiawati, Nadyah Haruna. 2022. Hubungan Faktor Risiko Kejadian Anemia pada Ibu Hamil Trimester Ketiga. UMI Medical Journal Vol.7.
[17] Feni Riswanti, Indah Wulaningsih, Dyah Ayu Wulandari. 2022. Faktor Resiko yang Berhubungan dengan Kejadian Anemia Pada Ibu Hamil di Puskesmas Tawangharjo Purwodadi. Prosiding Pekan Publikasi Ilmiah Mahasiswa Universitas Karya Husada Semarang.
[18] Tessa Sjahriani, Vera Faridah. 2019. Faktor-faktor yang berhubungan dengan kejadian Anemia pada Ibu Hamil. Jurnal Kebidanan. Vol 5, No 2, Hal :106-115.
[19] Susanti Susanti. 2022. Hubungan Status Gizi dengan Anemia pada Ibu Hamil di Puskesma Tampapadang Tahun 2021. Jurnal Ilmu Kedokteran dan Kesehatan Indonesia. Vol 2 No. 1 Hal 51-59.
[20] Detty Afriyanti S. 2020. Faktor Risiko yang berhubungan dengan Kejadian Anemia pada Ibu Hamil di Kota Bukittinggi. Menara Ilmu. Vol. XIV No.01.
[21] Ikeu Tanziha, M. Rizal M. Damanik, Lalu Juntra Utama, Risti Rosmiati. 2019. Faktor Risiko Anemia Ibu Hamil di Indonesia. J. Gizi Pangan, Vol. 11, No. 2
[22] Istiqamariah Abas, Kadar Ramadhan, Dafrosia Darmi Manggasa, Nirva Rantesigi. 2021. Edukasi Pencegahan Anemia Pada Ibu Hamil. Madago Community Empowerment for Health Journal Vol. 1, No.1.
[23] Liliek Pratiwi, Yane Liswanti, Harnanik Nawangsari. 2022. Anemia pada Ibu Hamil. CV Jejak.