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RELATIONSHIP BETWEEN KNOWLEDGE LEVEL AND NUTRITIONAL STATUS WITH ANEMIA INCIDENCE IN PREGNANT WOMEN

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ABSTRAK HUBUNGAN TINGKAT PENGETAHUAN DAN STATUS GIZI DENGAN KEJADIAN ANEMIA PADA IBU HAMIL

Anemia merupakan kondisi menurunnya kadar hemoglobin, hematokrit, dan jumlah eritrosit di bawah nilai normal. Menurut World Health Organization (WHO), 20% dari 515.000 kematian ibu di seluruh dunia disebabkan oleh anemia. Ibu hamil dengan anemia yang mengalami anemia di Puskesmas Gedung Menheng pada tahun 2022 sebanyak 43 dari 210 ibu hamil. Angka tersebut mengalami peningkatan jika dibandingkan dengan persentase anemia pada ibu hamil pada tahun sebelumnya, yakni tahun 2021 yang hanya sebanyak 38 dari 198 ibu hamil.Tujuan penelitian untuk mengetahui hubungan tingkat pengetahuan dan status gizi dengan kejadian anemia pada ibu hamil di Puskesmas Gedung Meneng Kabupaten Tulang Bawang Tahun 2023. Jenis penelitian yang digunakan adalah penelitian analitik dengan pendekatan cross sectional. Populasi dalam penelitian ini adalah ibu hamil bulan Juli di Puskesmas Gedung Meneng Kabupaten Tulang Bawang sebanyak 42 orang. Sampel dalam penelitian ini sebanyak 30 orang. Teknik pengambilan sampel yang digunakan adalah purposive sampling Analisis Univariat dan Bivariat dengan uji Chi Square.

Hasil penelitian menunjukkan sebagian besar responden yang mengalami anemia tidak mengalami anemia yaitu 16 orang (53,3%), pengetahuan sebagian besar responden memiliki pengetahuan kurang 15 orang (50%), status gizi sebagian besar responden baik yaitu 16 responden (53,3%). Ada hubungan antara pengetahuan dengan kejadian anemia pada ibu hamil, diperoleh nilai p sebesar 0,001 (<0,05) OR 26.000 Ada hubungan antara status gizi dengan kejadian anemia pada ibu hamil, diperoleh nilai p sebesar 0,000 (<0,05). OR yang diperoleh 42.000. Disarankan bagi ibu hamil untuk mencegah anemia dengan cara mengonsumsi makanan yang mengandung zat besi seperti ikan, telur, daging, bayam, tomat, tahu/tempe, kacang merah, dan lain-lain serta mengonsumsi tablet Fe

Kata Kunci: Anemia, Pengetahuan, Status Gizi, Ibu Hamil

ABSTRACT

Anemia is a condition of decreased hemoglobin, hematocrit and erythrocyte count below normal values. According to the World Health Organization (WHO), 20% of the 515,000 maternal deaths worldwide are caused by anemia. Pregnant women with anemia who experienced anemia at the Gedung Menheng Health Center in 2022 were 43 out of 210 pregnant women. This figure has increased when compared to the percentage of anemia in pregnant women in the previous year, namely 2021, which was only 38 out of 198 pregnant women. The purpose of the study was to determine the relationship between the level of knowledge and nutritional status with the incidence of anemia in pregnant women at the Gedung Meneng Health Center, Tulang Bawang Regency in 2023.

The type of research used was analytical research with a cross-sectional approach. The population in this study were pregnant women in July at the Gedung Meneng Health Center, Tulang Bawang Regency, as many as 42 people. The sample in this study was 30. The sampling technique used was purposive sampling Univariate and Bivariate Analysis with the Chi Square test.

The results of the study showed that most of the respondents who experienced anemia did not experience anemia, namely 16 people (53.3%), the knowledge of most respondents had insufficient knowledge 15 people (50%), the nutritional status of most respondents was good, namely 16 respondents (53.3%). There is a relationship between knowledge and the incidence of anemia in pregnant women, obtained a p.value of 0.001 (<0.05) OR 26,000 There is a relationship between nutritional status and the incidence of anemia in pregnant women, obtained a p.value of 0.000 (<0.05). OR obtained 42,000. It is recommended for pregnant women to prevent anemia by eating foods containing iron such as fish, eggs, meat, spinach, tomatoes, tofu/tempeh, red beans, and others and consuming Fe tablets

Keywords: Anemia, Knowledge, Nutritional Status, Pregnant Women

INTRODUCTION

Anemia is a condition where the number of erythrocytes (red blood cells) or Hb levels in the blood is less than normal. The causes can vary, such as heavy bleeding, lack of iron levels in the body, folic acid deficiency, vitamin B12 deficiency, worms, Leukemia, chronic diseases and so on (Adriani & Wirjatmadi, 2012). Pregnant women are declared anemic if hemoglobin (Hb) < 11 mg/dl (Ministry of Health, 2015).

The impact of anemia on pregnant women causes obstacles to the growth of the fetus both body cells and brain cells, abortion, the length of parturition time due to lack of uterine thrust, post partum bleeding, susceptible to infection, prone to decompensation cordis, Hypoxia due to anemia can cause shock and even maternal death during childbirth, death of babies in the womb, death of babies at a very young age and congenital defects, and anemia in babies who are born. Pregnant women who experience anemia have a risk of death up to 3.6 times greater than pregnant women who do not experience anemia (Prawirohadjo, 2020).

Factors that can affect the incidence of anemia in pregnant women are basic factors (socioeconomics, knowledge, education, and culture), indirect factors (antenatal care visits, parity, age, and husband support), indirect factors (Fe tablet consumption patterns, nutritional status, infectious diseases, and bleeding) (Teja, 2021).

Based on the results of a pre-survey conducted at the Puskesmas of Gedung Meneng, the incidence of anemia among pregnant women is still quite high. Based on the recapitulation of pregnancy examination visits, it was found that the percentage of anemia at the Puskesmas of Gedung Meneng, Tulang Bawang Regency in 2022 was 43 out of 210 pregnant women. This figure has increased when compared to the percentage of anemia of pregnant women in the previous year, namely 2021, which was only 38 out of 198 pregnant women. Based on the data above, the researcher is

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Based on the data above, the researcher is interested in examining the relationship between the level of knowledge and nutritional status with the incidence of anemia in pregnant women at Puskesmas Gedung Meneng Tulang Bawang Regency in 2023.

RESEARCH METHODS

The type of research used in this study is quantitative research using analytic research design and cross sectional design. This research design is used to examine an event at the same time (one time), so that the dependent variable and the independent variable are studied simultaneously (Notoatmodjo, 2018). The population in this study were 42 pregnant women and the sample in this study were 30 people. The sample in this study used the Lemeshow formula, namely:

$$n = \frac{Z^2 pq}{d^2}$$

Description :
n : minimum sample size required
Z : Normal standard deviation for 1,96 with CI 95%
d : The degree of precision used by 95% 0r 0,05
p : The proportion of the target population is 0,5
q : proportion unknown = 0,5

RESEARCH RESULT

Univariat Analyze

Responden Characteristics

Table 1
Characteristics of pregnant women with anemia at Puskesmas Gedung Meneng Tulang Bawang Regency

Responden Characteristics	Kategori	Amount	
		N	%
Age	<20		
	20-35	28	93,3
	>35	2	6,7
Education	SMA	24	80,0
	D3	4	13,3
	S1	2	6,7
Occupation	IRT	19	63,4
	Swasta	4	13,3
	honorer	1	3,3
	PNS	2	6,7
	Tani	4	13,3

Based on table 1, it is known that most respondents are between 23-35 years old, namely 28 people (93.3%), 24 people (80%) have high

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school education, 19 people (63.4%) work as housewives.

Anemia in pregnant women at Puskesmas Gedung Meneng Tulang Bawang Regency in 2023

Table 2
Frequency Distribution of Anemia in Pregnant Women at the Puskesmas Gedung Meneng Tulang Bawang Regency in 2023

Anemia	Amount	Persentase (%)
Anemia	14	46.7
Not anemia	16	53.3

Based on the table above, most respondents did not experience anemia, namely 16 people (53.3%).

Maternal knowledge about anemia in pregnant women at Puskesmas Gedung Meneng Tulang Bawang Regency in 2023

Table 3
Frequency Distribution of Maternal Knowledge about Anemia in Pregnant Women at the Puskesmas Gedung Meneng Tulang Bawang Regency Year 2023

Education	Amount	Persentase (%)
Poor	15	50
Good	15	50

Based on the table above, most respondents have less knowledge 15 people (50%)

Nutritional Status of pregnant women at the Community Health Center of Tulang Bawang Regency in 2023

Table 4
Frequency Distribution of Nutritional Status of pregnant women at the Community Health Center Gedung Meneng Tulang Bawang RegencyYear 2023

Nutritional Status	Amount	Persentase (%)
Poor	14	46.7
Good	16	53.3

Based on the table above, most of the respondents had normal nutritional status, namely 16 respondents (53.3%).

Bivariat Analyze

The relationship between knowledge and the incidence of anemia in pregnant women at Puskesmas Gedung Meneng Tulang Bawang Regency in 2023

Table 5
The relationship between knowledge and the incidence of anemia in pregnant women at Puskesmas Gedung Meneng Tulang Bawang Regency in 2023

Education	Anemia				Jumlah		P Value	OR
	Anemia		Not Anemia					
	n	%	n	%	N	%		
Poor	12	80	3	20	15	100	0,001	26.000 (3.686-183.418)
Good	2	13,3	13	86,7	15	100		

Based on table 5 above, it can be seen that of the 15 respondents who have less knowledge who experience anemia as many as 12 people (80%) and who do not experience anemia as many as 3 people (20%), while those who have good knowledge who experience anemia are 2 people (13.3%) and who do not experience anemia as many as 13 people (86.7%) The results of statistical tests have a relationship between knowledge and the incidence of anemia in pregnant women obtained a p.value of 0.001 (<0.05). OR presented 26.000 means that mothers with less knowledge are less likely to experience anemia 26 times than mothers with good knowledge.

The relationship between nutritional status and the incidence of anemia in pregnant women at Puskesmas Gedung Meneng Tulang Bawang Regency in 2023

Table 6
The relationship between nutritional status and the incidence of anemia in pregnant women at Puskesmas Gedung Meneng Tulang Bawang Regency in 2023

Nutritional Status	Anemia				Amount		P Value	OR
	Anemia		Not Anemia					
	n	%	n	%	N	%		
Poor	12	85,7	2	14,3	14	100	0,000	42.000 (5.112-345.103)
Good	2	12,5	14	87,5	16	100		

Based on table 6 above, it can be seen that of the 14 respondents with poor nutritional status who xperienced anemia were 12 people (85.7%) and those who did not experience anemia were 2 people (14.3%), while those with good status who experienced anemia were 2 people (12.5%) and those who did not experience anemia were 14 people (87.5%) The results of statistical tests there is a relationship between nutritional status and the incidence of anemia in pregnant women obtained a p.value of 0.000 (<0.05). OR is 42.000, meaning that mothers with poor nutritional status are 42 times more likely to experience anemia than mothers with good nutritional status.

DISCUSSION

Univariat Analyze

Anemia in pregnant women at Puskesmas Gedung Meneng Tulang Bawang Regency in 2023

The results showed that most respondents did not experience anemia, namely 16 people (53.3%). The results of this study are in line with Nurhaidah's 2021 research on Factors Associated with the Incidence of Anemia in Pregnant Women in the Mpunda Puskesmas Work Area, Bima City, which found that based on the level of incidence of anemia in pregnant women, out of 121 respondents, most did not experience anemia, namely 72 respondents (59.5%), According to the ministry of health, anemia in pregnant women is pregnant women who have Hb levels <11 mg/L (nutrition infodatin, 2016).

In addition, other factors such as ANC visits, parity, nutritional status, Fe tablet consumption, gestational distance, gestational age and consumption intake are thought to affect the incidence of anemia in pregnant women, anemia can affect the development of the fetus in the womb. Therefore, the development and growth of the fetus in the womb is highly dependent on the nutrition that the mother consumes. The food that the mother consumes will be channeled to the fetus through the placenta. In addition, the placenta also channels some maternal antibodies as a barrier to the fetus from germs or microorganisms. So, if the placenta dysfunctions, this will result in disruption of fetal growth (Rahmi, 2016).

The result of anemia in pregnancy is that it can be one of the triggers for bleeding, especially uterine atony bleeding. This is caused by the reduced amount of oxygen bound in the blood and causes the uterine muscles to not contract properly which eventually causes uterine atony which causes postpartum bleeding. Saputri (2017) states that the lower the Hb level in pregnant women, the greater the risk of mothers experiencing postpartum bleeding. Handaria et al (2011) also stated that low Hb levels have a 4 times risk of postpartum bleeding.

Maternal knowledge about anemia in pregnant women at Puskesmas Gedung Meneng Tulang Bawang Regency in 2023

The results showed that most respondents had less knowledge 15 people (50%). The results of this study are in line with Addina Muzayana's research in 2017 conducted in the work area of the Godean I Health Center, Godean District, Sleman Regency, which showed that there was a significant relationship between the level of knowledge of pregnant women and the incidence of anemia at the Godean I Health Center with a p value of 0.0038.

Knowledge is the result of knowing, which is usually obtained from the five senses. The higher a person's level of knowledge, the more things he will observe. In addition, knowledge is the overall thoughts, ideas, concepts and understanding that humans have. Knowledge includes human reasoning and understanding of everything that includes practice or the ability to solve life problems that have not been done systematically. Good knowledge can be obtained from several factors, namely experience and exposure to information (Nurhaidah, 2021)

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According to the researcher's assumption, lack of knowledge about anemia has an influence on health behavior, especially especially in pregnant women, which will result in less optimal behavior of pregnant women to prevent pregnancy anemia.

Nutritional status of pregnant women at Puskesmas Gedung Meneng Tulang Bawang Regency in 2023

The results showed that most respondents had good nutritional status as many as 16 respondents (53.3%). This is in accordance with research by Sari et al., (2020) who conducted research on pregnant women at the Puskesmas Kota Gede II Yogyakarta with 13 respondents who experienced nutritional status and experienced anemia, with a p-value of 0.001 (<0.05), it can be concluded that there is a significant relationship between nutritional status and the incidence of anemia in pregnant women at the Kotagede II Yogyakarta Health Center. Pregnant women who are malnourished or nutritionally deficient also adversely affect the growth of the fetus they are carrying,

The nutritional status of pregnant women can be influenced by various factors such as diet, health conditions, and daily living habits. Parameters used to assess the nutritional status of pregnant women include body mass index (BMI), upper arm circumference (LILA), and laboratory examinations such as blood hemoglobin levels. Poor nutritional conditions in pregnant women can increase the risk of pregnancy complications that often occur, namely anemia.

One indicator of measuring nutritional status with upper arm circumference (LILA) and has a threshold limit of LILA with a risk of Chronic Energy Deficiency (SEZ) is 23.5 cm. pregnant women who experience anemia tend to have a low LILA size.

The need for iron in women also increases during pregnancy and childbirth. When pregnant, a mother is not only required to meet iron needs for herself, but also must meet iron needs for the growth of her fetus. In addition, bleeding during childbirth can also cause a mother to lose even more iron. For this reason, every pregnant woman is advised to consume iron tablet. Anemia that is not overcome endangers the pregnant mother and the fetus she is carrying (Waridah, 2019).

Bivariat Analyze

The relationship between knowledge and the incidence of anemia in pregnant women at Puskesmas Gedung Meneng Tulang Bawang Regency in 2023

The results showed that of the 15 respondents who had poor knowledge who experienced anemia, 12 people (80%) and those who did not experience anemia were 3 people (20%), while those who had good knowledge who experienced anemia were 2 people (13.3%) and those who did not experience anemia were 13 people (86.7%) The results of the statistical test showed that there was a relationship between knowledge and the incidence of anemia in pregnant women with a p.value of 0.001 (<0.05).

The results of this study are in line with Nurhaidah, 2021, Factors Associated with the Incidence of Anemia in Pregnant Women in the Mpunda Puskesmas Work Area, Bima City, the results show that there is a relationship between knowledge and Antenatal Care (ANC) visits with a p value of 0.028 and 0.022.

Knowledge is one of the factors that influence the formation of health behavior. If pregnant women know and understand the consequences of anemia and how to prevent anemia, they will have good health behavior so that they are expected to avoid various consequences or risks of pregnancy anemia. Such behavior can affect the decrease in the incidence of anemia in pregnant women (Teja, 2021).

Lack of knowledge about anemia has an influence on health behavior, especially in pregnant women, will result in less than optimal health behavior of pregnant women to prevent pregnancy anemia. Pregnant women who have less knowledge about anemia can result in a lack of consumption of iron-containing foods during pregnancy due to ignorance, so knowledge about anemia is important for pregnant women (Purbadewi and Ulvie, 2013).

According to the researcher's assumption of maternal knowledge about anemia, one of the factors that cause the high incidence of anemia is a lack of knowledge. Knowledge is very important because usually a person's behavior is based on their knowledge. Lack of knowledge about anemia in pregnant women will result in less than optimal health behavior of pregnant women to prevent pregnancy anemia. Pregnant women who have less knowledge about anemia can result in a lack of consumption of foods that contain iron and in processing food properly, resulting in inadequate intake of foods that contain iron.

The relationship between nutritional status and the incidence of anemia in pregnant women at the Puskesmas Gedung Meneng Tulang Bawang Regency in 2023

The results showed that of the 14 respondents with poor nutritional status who experienced anemia were 12 people (85.7%) and those who did not experience anemia were 2 people (14.3%), while those with good nutritional status who experienced anemia were 2 people (12.5%) and those who did not experience anemia were 14 people (87.5%) The results of statistical tests there is a relationship between nutritional status and the incidence of anemia in pregnant women obtained a p value. value 0.000 (<0.05)

This is in line with research conducted by Diah Mutiarasari (2019) with the incidence of anemia with p-value (0.012) This is also in line with research conducted by Retno Setyo Iswati (2019) which states that from the results of cross tabulation between nutritional status and the incidence of anemia, it can be seen that of all 25 respondents with good nutritional status, all were not anemic (83.3%); while of the 5 people with poor nutritional status, 3 were not anemic (10%) and 2 were anemic (6.7%). The results of data analysis of nutritional status with the incidence of anemia using Chi Square obtained a p value of 0.001, which means that there is a significant relationship between nutritional status and the incidence of anemia (Iswati et al., 2019).

The nutritional status of pregnant women is a state of balance in the body of pregnant women as a result of the intake of food consumption and the use of nutrients used by the body for survival in maintaining the function of its organs. One way to measure nutritional status in pregnant women is by examining LILA.

The effect of nutritional status during pregnancy is very influential on the nutritional status of the mother and baby. The mother's nutritional intake greatly affects the process of fetal growth and development, because the baby's source of nutrients comes from the mother. The risks that will occur if the mother is malnourished are bleeding abortion, stillbirth, low birth weight babies, congenital abnormalities, mental retardation, and so on. Women who experience malnutrition before pregnancy and during the first week of pregnancy have a higher risk of giving birth to babies who experience brain and bone marrow damage due to the formation of a very sensitive nervous system in the first 2-5 weeks. (Proverawati, 2017).

Maternal nutritional needs must be met during pregnancy because fetal growth and development depends on maternal nutrition. If the nutrition of pregnant women is not met according to their needs, there can be disturbances in pregnancy both for the mother and the fetus. The nutritional status of the mother before and during pregnancy can affect fetal growth. Pregnant women with normal nutritional status will give birth to healthy, normal weight babies. (Chandra et al., 2019)

According to the researcher's assumption that the nutritional status of a pregnant woman during pregnancy affects the incidence of anemia. Pregnant women whose nutritional status is less will be more at risk of anemia than mothers with good nutritional status. This is because one of the causes of anemia is iron deficiency due to an unhealthy diet and the regulation of the amount and type that is not in accordance with the balanced nutrition of pregnant women so that the mother mengali KEK or nutritional status of the mother is lacking. During pregnancy, there is an increase in nutritional needs, especially iron, which is needed by the body

CONCLUSIONS

Distribution of Frekusi mothers who experienced anemia most of the respondents did not experience anemia, namely 16 people (53.3%) and not anemic 14 people (46.7%), Distribution of Frekusi maternal knowledge most of the respondents had less knowledge 15 people (50%) and good 15 people (50%), Distribution of Frekusi Nutritional Status most of the respondents were good, namely 16 respondents (53.3%) and malnutrition as many as 14 people (46.7%), There is a relationship between knowledge and the incidence of anemia in pregnant women at the puskesmas Gedung Meneng Tulang Bawang district in 2023 obtained p value. value 0.001 (<0.05), There is a relationship between nutritional status and the incidence of anemia in pregnant women at the Gedung Meneng health center, Tulang Bawang district in 2023, obtained a p.value of 0.000 (<0.05).

SUGGESTIONS

Pregnant women should read the MCH book given by health workers during pregnancy check-ups, because the MCH book contains information on how to maintain and care for health, early

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detection of problems during pregnancy, childbirth, postpartum and contains components of child health, to prevent anemia by eating foods that contain iron such as fish, eggs, meat, spinach, tomatoes, tofu/tempeh, red beans, and so on and consuming Fe 90 tablets during pregnancy. Puskesmas Gedung Meneng conducts routine counseling on anemia during pregnant women's classes or during antenatal visits. Distribute informative and easy-to-understand brochures, leaflets, and posters on anemia.

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