ANALYSIS OF THE RELATIONSHIP BETWEEN EDUCATION LEVEL AND KNOWLEDGE LEVEL WITH THE INCIDENCE OF ANEMIA IN PREGNANT WOMEN

Rismayani[1], Ade Elvina[2], Herlinda[3], Seri Purnama Sari[4]

[1,2,4] Program Studi Sarjana Kebidanan, STIKes Sapta Bakti, Bengkulu, Indonesia
[3] Program Studi D3 Kebidanan, STIKes Sapta Bakti, Bengkulu, Indonesia
Email correspondence: rismayanibkl@gmail.com

ABSTRAK : ANALISIS HUBUNGAN TINGKAT PENDIDIKAN DAN TINGKAT PENGETAHUAN DENGAN KEJADIAN ANEMIA PADA IBU HAMIL

Latar Belakang: Anemia adalah salah satu masalah kesehatan yang paling luas di dunia. Anemia pada ibu hamil sering terjadi karena beberapa faktor yang mempengaruhi seperti tingkat pengetahuan dan Pendidikan yang ibu hamil miliki. Tujuan: Penelitian ini bertujuan untuk mempelajari hubungan tingkat pengetahuan dan Pendidikan dengan kejadian anemia di wilayah kerja puskesmas muara maras tahun 2024. Metode: Penelitian ini menggunakan pendekatan rancangan *survey analitik* dengan pendekatan *cross sectional*. Populasi dalam penelitian ini yaitu ibu hamil di wilayah Kerja Puskesmas Muara Maras yang berjumlah 35 orang. Teknik pengambilan sampel dengan menggunakan *total sampling* sehingga seluruh ibu hamil yang berjumlah 35 orang. Pengumpulan data dalam penelitian ini yaitu menggunakan data sekunder dengan melihat dokumentasi. Analisis data dilakukan dengan uji *Chi-Square.* Hasil: Hasil penelitian didapatkan Sebagian besar 34 (52,3%) ibu hamil mengalami anemia, Sebagian besar 37 (56,9%) tingkat pengetahuan ibu hamil dalam kategori baik, Sebagian besar 40 (61,5%) ibu hamil berpendidikan tinggi. Hasil analisa bivariat diperoleh Ada hubungan yang signifikan antara tingkat pengetahuan ibu dengan kejadian anemia pada ibu hamil dengan nilai $p = 0,015 < α$ (0,05). Ada hubungan yang signifikan antara Pendidikan ibu dengan kejadian anemia pada ibu hamil dengan nilai $p = 0,024 < α$ (0,05). Kesimpulan: Ada hubungan yang signifikan antara tingkat Pendidikan dan tingkat pengetahuan dengan kejadian anemia pada ibu hamil di wilayah kerja puskesmas muara maras kabupaten seluma. Saran: Untuk peneliti selanjutnya dapat melakukan penelitian yang memberikan pengaruh untuk menurunkan angka kejadian anemia pada ibu hamil di wilayah kerja puskesmas muara maras.

Kata Kunci: Ibu hamil, kejadian anemia, Pendidikan, pengetahuan

ABSTRACT

Background:Anemia is one of the most widespread health problems in the world. Anemia in pregnant women often occurs due to several influencing factors such as the level of knowledge and education that pregnant women have. Objective: This study aims to determine the relationship between the level of knowledge and education and the incidence of anemia in the Muara Maras Health Center working area in 2024. Method: This research uses an analytical survey design approach with a cross sectional approach. The population in this study were 35 pregnant women in the Muara Maras Community Health Center working area. The sampling technique used total sampling so that all pregnant women were 35 people. Data collection in this research used secondary data by looking at documentation. Data analysis was carried out using the Chi-Square test. Results: The results showed that the majority of 34 (52.3%) pregnant women had anemia, the majority of 37 (56.9%) pregnant mothers had a level of knowledge in the good category, the majority of 40 (61.5%) pregnant mothers had high level of knowledge. education. The results of bivariate analysis show that there is a significant relationship between the level of maternal knowledge and the incidence of anemia in pregnant women with a value of $p = 0.015 < α$ (0.05). There is a significant relationship between maternal education and the incidence of anemia in pregnant women with a value of $p = 0.024 < α$ (0.05). Conclusion: There is a significant relationship between the level of education and the level of knowledge and the incidence of anemia in pregnant women in the Muara Maras Health Center working area, Seluma Regency. Suggestion: Future researchers can conduct research that will have an impact on reducing the incidence of anemia in pregnant women in the Muara Maras Health Center working area.

Keywords: Pregnant women, incidence of anemia, education, knowledge

INTRODUCTION

Anemia is one of the most widespread health problems in the world. Anemia affects more than 2 billion people worldwide (Edison Ernawati, 2019).

Data from the World Health Organization (WHO) in 2020 stated that 40% of maternal deaths in developing countries are related to anemia in pregnancy (Purwaningtyas, 2021). Based on the 2019 Global Nutrition Report, Indonesia is included in 47 countries out of 122 countries that have anemia problems. Based on the results of the Household Health Survey (SKRT), the prevalence of anemia in pregnant women in Indonesia in 2021 was 40.1%, this shows an increase from 2020, which was 24.5% (Hermie, 2022). Based on data from the 2022 Indonesian Health Profile, the prevalence of anemia in pregnant women in Indonesia was 45.9%, an increase of 4.8% from the previous year. The proportion of anemia in pregnant women in urban areas is 23.6% and rural areas 25.3% (BPS, 2022). Thus, this condition indicates that iron deficiency anemia is still a public health problem (Ministry of Health of the Republic of Indonesia, 2022).

Around 295,000 women died during and after pregnancy and childbirth in 2017 (WHO, 2019) the most common direct causes of cedar and maternal death are excessive blood loss infection, high blood pressure, unsafe abortion and labor disorders, as well as indirect diseases such as anemia, malaria, and heart disease (Ministry of Health of the Republic of Indonesia, 2013). Pregnant women who are anemic have a greater risk of KEK, which is 255 percent higher for giving birth to babies with LBW (Lamid, 2021). Failure to thrive can occur early, namely in the first trimester of pregnancy which can cause a decrease in growth in the skeleton and soft tissue continued after the baby is born until the age of 2 or 3 years (Lamid, 2021).

In the journal Bachtiar, et.al (2023) explains that anemia control in pregnant women can be carried out with the Anemia Control Program by providing 90 Fe tablets to pregnant women during their pregnancy period, in addition to this, it is also carried out by providing blood-boosting tablets, namely Fe preparations, which aim to reduce the number of anemia in toddlers, adolescent girls, and Women of Childbearing Age (WUS). Based on the 2020 Seluma Regency Health Profile, the coverage of pregnant women who received Fe tablets was 100%, and the coverage of Fe3 in 2020 was 81.1%. Based on the 2022 Seluma Regency Health Profile, the prevalence of anemia in pregnant women in Seluma Regency was 47.2%, an increase compared to 2021, which was 40.5%. The Health Center Work Area that experienced the highest prevalence of anemia in pregnant women was the Muara Maras Health Center at 52.2% (Seluma Regency Health Office, 2022).

The cause of anemia is explained through Lawrence Green's behavioral theory (predisposing factors, reinforcing factors and enabling factors). One of the causal factors is the level of knowledge and education. Seto Astari (2016) said that the level of knowledge is one of the factors that influences the formation of health behavior. If pregnant women know and understand the effects of anemia and how to prevent anemia, they will have good health behavior so that they can avoid various effects or risks of pregnancy anemia. Such behavior can affect the reduction in the incidence of anemia in pregnant women (Soraya, 2019). The impact of anemia on pregnant women that will occur if anemia is not treated comprehensively is bleeding, premature labor, abortion, impaired fetal growth in the womb and intrauterine death.

The results of the study (Kafiyanti, 2020), it is known that out of 61 respondents who experienced mild anemia, namely 60.7% and those who had a good level of knowledge were 36.1%. This study shows that there is a relationship between the level of knowledge about anemia and the incidence of anemia in pregnant women in TM III with the results of statistical tests. This is in line with the behavioral theory presented by Lawrence Green. Likewise with the results of the study conducted by Astuti (2019) from 44 samples of 22 respondents with normal hemoglobin levels, most of them had good attitudes 68.2%. And the hemoglobin levels were less good from 22 respondents with abnormal hemoglobin levels, most of them had poor attitudes 72.7%.

RESEARCH METHODS

This type of research is analytical survey research, with a cross-sectional approach. The population used was 65 pregnant women. Sample selection used total sampling technique. The data used is primary data taken directly from respondents by distributing questionnaires and secondary data taken from register books. Data analysis was carried out using univariate and bivariate analysis. Univariate analysis is used to determine the frequency distribution of the variables studied and bivariate analysis to see the relationship between the dependent variable and the independent variable with a significance level of < (less than) than (α) = 5% or 0.05, which means there is a relationship between the independent variable and the dependent variable.

RESEARCH RESULTS
Univariate Analysis

Table 1
Frequency Distribution of Anemia in Pregnant Women in the Muara Maras Health Center Work Area

Anemia	Amount	Percentage (%)
Anemia	34	52.3
No anemia	31	47.7

Based on table 1 most 34 (52.3%) pregnant women experienced anemia.

Table 2
Frequency Distribution of Knowledge Level of Pregnant Women in the Muara Maras Health Center Work Area

Knowledge	Amount	Percentage (%)
Not enough	28	43.1
Good	37	56.9

Based on table 2, most 37 (56.9%) pregnant women experienced anemia.

Table 3
Frequency Distribution of Education Level of Pregnant Women in the Muara Maras Health Center Work Area

Education	Amount	Percentage (%)
Base	25	38.5
Tall	40	61.5

Based on table 3, most of the 40 (61.5%) pregnant women were highly educated.

Bivariate Analysis

Based on table 4, the results of the Chi-Square test obtained a p value = 0.015 < α (0.05), which means that there is a significant relationship between the level of knowledge and the incidence of anemia in pregnant women in the Muara Maras Health Center Work Area.

Table 4
Relationship between Knowledge Level and the Incidence of Anemia in Pregnant Women

Level of knowledge	Anemia occurrence				Total		pvalue
	Anemia		No anemia				
	n	%	n	%	n	%	
Not enough	20	71.4	8	28.6	28	100	0.015
Good	14	37.8	23	62.2	37	100	

Table 5
Relationship between Education Level and the Incidence of Anemia in Pregnant Women

Level of education	Anemia occurrence				Total		pvalue
	Anemia		No anemia				
	n	%	n	%	n	%	
Low	18	72.0	7	28.0	25	100	0.024
Tall	16	40.0	24	60.0	40	100	

Based on table 1.5, the results of the Chi-Square test obtained a p value = 0.024 < α (0.05), which means that there is a significant relationship between education level and the incidence of anemia in pregnant women in the Muara Maras Health Center Work Area.

DISCUSSION
Anemia in pregnancy is directly caused by malnutrition, iron deficiency, malabsorption, and chronic diseases (TB, malaria, worms, etc.). Indirectly, it can be caused by the mother's age during pregnancy, the level of knowledge about anemia in pregnancy, parity, etc. Pregnant women who suffer from anemia are at risk of fetal growth and development disorders and even risky childbirth. Therefore, by knowing the factors related to the occurrence of anemia, appropriate actions can be determined to prevent anemia in pregnancy.

The level of knowledge is a very important domain for the formation of a person's actions. The level of knowledge is needed as support in growing self-confidence and attitudes and behavior every day, so it can be said that the level of knowledge is a fact that supports a person's actions. The level of knowledge is one of the factors that influences health

behavior. Pregnant women who know and understand the effects of anemia and how to prevent anemia will have positive behavior and actions so that they can avoid the impact and risk of anemia during pregnancy. states that a good level of knowledge will influence health behavior so that it affects health behavior.

The level of knowledge about anemia in pregnant women at the Muara Maras Health Center is still categorized as lacking. Pregnant women who have a low level of knowledge about anemia means that their understanding of the meaning of anemia, things that cause anemia, signs and symptoms of anemia, things that result if anemia occurs, and health behavior to prevent anemia is lacking in order to avoid pregnancy anemia. The low level of knowledge about anemia has an impact on health behavior, especially when a woman is pregnant, which will result in less than optimal health behavior of pregnant women to prevent pregnancy anemia. Pregnant women who have a low level of knowledge about anemia can result in a lack of consumption of foods containing iron during pregnancy due to their ignorance.

Pregnant women who have a low level of knowledge about anemia will increase the risk of anemia during pregnancy, compared to those who have a good and sufficient level of knowledge about anemia because mothers with a good and sufficient level of knowledge will understand information about anemia so that they can prevent anemia (Putu et al., 2021)

The results of the Chi-Square test obtained a p value = 0.015 <α (0.05) which means that there is a significant relationship between the level of knowledge and the incidence of anemia in pregnant women in the Muara Maras Health Center Work Area. In line with the study (Riza, 2023) with the title of the relationship between the level of knowledge and attitudes of mothers about anemia with the incidence of anemia in pregnancy in Gampong Ceurih, it was found that there was a relationship between the level of knowledge and the incidence of anemia in pregnancy. The results obtained in the study (Arni & Manurung, 2023) with the title of the relationship between the level of knowledge and parity of mothers with anemia in pregnant women in the third trimester at the Suka Makmur Health Center, Southeast Aceh Regency showed that there was a relationship between the level of knowledge of mothers and the incidence of anemia in pregnant women in the third trimester. Research results There is a relationship between the level of knowledge and the incidence of anemia.

Non-compliance of pregnant women in consuming Fe tablets increases the chance of developing anemia. This is in line with research (Mardhiah & Marlina, 2019) mothers who are compliant in consuming Fe tablets do not experience anemia and the fetus is healthy, but if pregnant women are not compliant in consuming Fe tablets, they will be at higher risk of developing anemia.

Regarding the percentage of education of pregnant women, there is a tendency that pregnant women with secondary education are more likely to experience anemia than pregnant women with higher education. This shows that the higher the level of education of pregnant women, the fewer the number of pregnant women who suffer from anemia. Pregnant women with higher education are better able to behave well to prevent anemia during pregnancy than pregnant women with basic education.

In Edison's journal, Ermawati (2019) said that the level of education can affect a person's level of knowledge because a person's ability to receive and understand something is determined by the level of education they have. Acceptance and understanding of information received by someone with a high education is better than someone with a low education (Notoatmodjo, 2007). It is proven from the results of this study that the incidence of anemia in pregnant women is very high in the group of respondents with basic education.

The results of the Chi-Square test obtained a p value = 0.024 <α (0.05) which means that there is a significant relationship between the level of education and the incidence of anemia in pregnant women in the Muara Maras Health Center Work Area. In general, the majority of studies state that the level of education is related to the level of health. According to Chandra et al. (2019), the higher the level of education, the easier it is to accept the concept of healthy living independently, creatively and sustainably (Chandra et al., 2019). Likewise, the opinion of Suryanarayana et al. (2018) who stated that gravida, education of pregnant women, and poor obstetric history with anemia (Suryanarayana et al., 2018).

Primigravida mothers do not have experience in maintaining pregnancy health from previous pregnancies because they are pregnant for the first time so they cannot prevent anemia in pregnant women. Furthermore, the low level of maternal education affects the receipt of information so that the level of knowledge about iron (Fe) is limited (Rubiyati, 2021). The level of education also greatly affects the ability to receive nutritional information, determining or influencing whether or not someone can receive a level of knowledge, the higher the

education, the easier it is for someone to receive nutritional information (Chandra et al., 2019).

In the research of Chandra et al. (2019) it was stated that the mother's education level greatly influences how a person acts and seeks causes and solutions in his life. People who are highly educated will usually act more rationally. Therefore, educated people will be more receptive to new ideas. Likewise, highly educated mothers will check their pregnancies regularly in order to maintain the health of themselves and their unborn children (Chandra et al., 2019). Likewise, Edison's opinion (2019) states that education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have spiritual strength, religion, self-control, personality, intelligence, noble morals, and the skills needed by themselves, society, nation and state.

Education is a learning process that means that in education there is a process of growth, development or change towards a more mature, better and more mature direction in individuals, groups or communities. The level of education can affect a person's level of knowledge because a person's ability to receive and understand something is determined by the level of education they have. Acceptance and understanding of information received by someone with a high education is better than someone with a low education (Edison, 2019).

CONCLUSION

The conclusion of this study is that there is a significant relationship between the level of maternal knowledge and the incidence of anemia in pregnant women in the Muara Maras Health Center Working Area with p value = 0.015 < α (0.05) and there is a significant relationship between maternal education and the incidence of anemia in pregnant women . incidence of anemia in pregnant women in the Muara Maras Health Center Working Area with p value = 0.024 < α (0.05)

SUGGESTION

For community health centers, existing programs at community health centeres should be optimized to provide information through class activites for pregnant woman about the regularity of ANC and the dangers or risk of anemia pregnant woman.

REFERENCES

Astuti, 2019. *Hubungan Tingkat pengetahuan Dengan Kepatuhan Mengkonsumsi Tablet Zat Besi (Fe) di Wilayah Kerja Puskesmas Lawanga Kabupaten Poso.000*, 17–23

Agalarov, 2021. *Anemia pada ibu hamil disebut Potensial Danger Of Mother and Child yaitu Anemia Potensial*

Bachtiar, Hamraa,Nadyah Haruna, Andi Alifiyah, 2023. *Hubungan Tingkat Pendidikan dengan kejadian anemia pada ibu hamil di Pampang Makassar*

Burhan, 2021.*Metodelogi Penelitian Kuantitatif.* Kencana. Jakarta

C.A Van Peurson, 2019.Tingkat pengetahuan-tingkat pengetahuan melaluipanca indera

Dinkes Bengkulu, 2022. *Profil Kesehatan Provinsi Bengkulu.*Dinas Kesehatan Provinsi Bengkulu. Bengkulu

Dinkes Kabupaten Seluma, 2022. *Profil Kesehatan Kabupaten Seluma.*

Edison, Ernawati, 2019.*Pengaruh Anemia Di Dunia .*Kencana. Jakarta

Elisabeth, 2013.faktor yang mempengaruhi *Hubungan Pendidikan dengan kejadian anemia pada ibu hamil*

Fifi, 2012.Hubungan Eksponensial terhadap status gizi *pada ibu hamil.*

Global Nutrition, 2019. *Indonesia termasuk Negara yang mempunyai masalahAnemia*

Hasibuan, 2023.*Indikator Penelitian Sosial.*Rineka Cipta. Jakarta

Hidayat, 2019.*Terjadi proses sebelum orang mengadopsi ilmu tingkatpengetahuan baru.*

Huclok, 2019. *Semakin cukup umur, tingkat kematangan dan kekuatan seseorang akan lebih matang dalam berpikir dan bekerja.*

Hermie, 2022.*Hasil Survei Kesehatan Rumah Tangga mengalami peningkatan Indonesian Nursing Scientific Journal*, Volume 09, Nomer 04, 2019. *Tingkat Pendidikan dan Tingkat pengetahuan Ibu Hamil dengan Status Anemia*

Isviani Hayu, 2021. Gambaran Kadar Haemoglobin (HB) pada Ibu Hamil di Wilayah Kerja Puskesmas Ciputat (Skripsi. Program Studi Ilmu Keperawatan, Program Sarjana, Universitas Islam Negeri Syarif Hidayatullah, Jakarta).

Kafiyanti, 2020. Minimnya *Tingkat pengetahuan dan pendidikan salah satu penyebab anemia.* Kementerian Kesehatan RI. Jakarta

Kemenkes RI, 2019. *Riset Kesehatan Dasar Nasional.* Kementerian KesehatanRI. Jakarta

Kemenkes RI, 2013. *Anemia Gizi Besi.* Kementerian Kesehatan RI. Jakarta

Kemenkes: 2016.*Dampak anemia pada ibu hamil* yang menyebabkan resiko Lamid,2021. *Dampak anemia* pada ibu hamil yang

menyebabkan resiko melahirkan bayi dengan BBLR Permatasari, 2019.*Klasifikasi anemia pada ibu hamil*

Seto, Astari, 2016.*Hubungan Tingkat pengetahuan merupakan factor yangmempengaruhi prilaku kesehatan*

Sibagariang, 2020.*Buku Saku Metodologi Penelitian Untuk Mahasiswa Diploma Kesehatan*. TIM. Jakarta

Soraya, 2019. *Dampak Anemia Pada Ibu Hamil.* Kementerian Kesehatan RI.Jakarta

Sotjiningsih, 2020.Kesehatan Ibu dan Anak.Arcan. Jakarta

Syafrudin, 2021.*Praktik Kebidanan Komunitas dengan Pendekatan PKMD*.TIM. Jakarta

Nursalam, 2020.*Umur individu yang terhitung mulai saat dilahirkan sampai berulang tahun.*

Notoatmodjo, S. (2019).*Ilmu Perilaku Kesehatan.* Rineka Cipta. Jakarta Notoatmodjo 2019. *Metodelogi Penelitian Kesehatan.* Jakarta: Rineka Cipta

Purwanti, 2019.*Buku Ajar Asuhan Kebidanan*. Jakarta. Penerbit BukuKedokteran

Wawan & Dewi, 2021.*Teori dan Pengukuran Tingkat pengetahuan, Sikap, dan Perilaku Manusia*. Nuha Medika. Yogyakarta.

Waryana. 2019.*Gizi Reproduksi*(kedua). yogyakarta: pustaka rihama

Yuni, 2019.*Frekuensi anemia dan kehamilan.*Rineka Cipta. Jakarta