

THE CORRELATION OF KNOWLEDGE AND THE ANEMIA INCIDENT OF PREGNANT WOMEN IN THE GROGOL HEALTH CENTER, SUKOHARJO REGENCY

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ABSTRACT

The occurrence of anemia in pregnancy causes premature birth, miscarriage, growth and development disorders, and is prone to illness. Anemia in pregnancy is determined by the knowledge factor of pregnant women about anemia. The study objective was determined the correlation of knowledge with the occurrence of anemia in pregnant women at the Grogol Health Center. The study applied observational research through a cross-sectional design. The study sample included 52 pregnant women at the Grogol Health Center. The study used primary and secondary data. The research tool used a questionnaire. Data were analyzed univariately and bivariately. Bivariate analysis applied the Spearman rank. Data analysis showed 1) The characteristics of respondents were high school (65.4%), housewives (51.9%), pregnant in the second trimester (44.2%), and multiparous (51.9%). 2) The level of knowledge of respondents was included in the good category. 3) The majority of pregnant women at the Grogol Health Center did not experience anemia. 4) There was a relationship between the knowledge level and anemia (sig. value $0.014 \leq 0.05$). The conclusion that there is a relationship between the knowledge level and anemia at the Grogol Health Center.

Key words: Anemia, Knowledge, Pregnant Women

INTRODUCTION

Pregnancy anemia is common in developing countries (Sunuwar et al., 2020). Anemia occurs in 1.62 billion people worldwide or 24% of the population. Women who suffer from anemia are 36% and 41.8% of them are pregnant women (Khalid, 2018). The incidence of mild and severe pregnancy anemia in Southeast Asia reaches 25-40%. (Kemenkes, 2018). Anemia sufferers in Indonesia were 29.3% in 2021 (Kemenkes, 2021). Anemia sufferers in Central Java were 714 people in 2022, while in Sukoharjo Regency there were 655 incidents (Depkes Jateng, 2023). The number of anemia sufferers at the Grogol Health Center in 2021 was 87 people and in 2022 it was 147 people (Preliminary Study Results).

Efforts to prevent anemia are by providing Fe tablets to pregnant women as many as 90 tablets during pregnancy. The achievement of providing Fe tablets to pregnant women in Indonesia in 2020 was 83.6%, an increase from 2019 of 64% (Kemenkes, 2021). The achievement in Central Java was 91.95% in 2019 (Depkes Jateng, 2019).

The prevalence of anemia was caused by a complex interaction between political, ecological, social and biological factors but is mostly caused by socio-economic factors. The pregnancy anemia caused by a lack of iron and micronutrients which are less than daily requirements and efforts made by the government through the health service by providing blood supplement tablets regularly (Salma et al., 2022).

According to Amalia (2023), there are several factors that cause of pregnancy anemia, one of which is the level of knowledge (Demisse et al., 2021). Low knowledge has a negative impact on health behavior during pregnancy. Because factors related to knowledge and influence the community in maintaining daily food consumption patterns so that it can prevent anemia (Afriyanti, 2020).

Knowledge related to anemia affects the behavior of pregnant women in dealing with anemia. Low knowledge can cause pregnant women to behave poorly to avoid anemia. Low knowledge also causes pregnant women not to eat foods containing iron during pregnancy. Iron deficiency can pose a risk to the fetus and the pregnant woman herself. The fetus will experience growth disorder. Apart from that, it can also result in death of the fetus, abortion, birth defects, and LBW (Suhartatik et al., 2019).

Riza (2023) showed a relationship knowledge, attitudes and anemia incidence. Therefore, health education related to anemia is needed so that pregnant women can improve their understanding of anemia and behave appropriately to prevent anemia during pregnancy.

Based on a preliminary study at Grogol Community Health Center showed that pregnant women in 2022 was 1,747 people and 147 experienced anemia. From the results of Hb examinations carried out on 8 pregnant women, 3 had mild anemia (37.5%), 2 (25%) had moderate anemia and 3 (37.5%) had normal. Meanwhile, the results of interviews with 8 pregnant women revealed that 5 (62.5%) mothers did not understand anemia and 3 (37.5%) pregnant women understood anemia and its consequences. Regarding the regularity of consuming Fe tablets, 5 (62.5%) pregnant women did not consume Fe regularly because of the side effects and the taste of Fe which made them nauseous, while 3 (37.5%) mothers consumed it regularly. The preliminary study results shown that pregnant women at the Grogol Community Health Center do not fully understand the meaning and consequences of anemia. Apart from that, pregnant women at the Grogol Community Health Center also do not routinely consume Fe tablets.

RESEARCH METHODS

The type of research is an analytical survey through a cross-sectional approach. The research sample was 52 pregnant women. The sampling technique applied was total sampling. The study used a questionnaire to collect primary data. Data analysis was carried out univariately and bivariately. Bivariate analysis was carried out using the Spearman Rank test.

RESEARCH RESULTS

1. Respondent Characteristics

Table 1 Characteristics

Characteristics	Number of Respondent	%
Age		
< 20	2	3.8%
20-35	45	86.5%
> 35	5	9.6%
Education		
Elementary School	12	23,1%
Secondary School	34	65,4%
Diploma	4	7,7%
Bachelor	2	3,8%
Occupation		
Housewife	27	51,9%
Civil servant	2	3,8%
Entrepreneur	15	28,8%
Private employees	8	15,4%
Pregnancy		
Trimester I	8	15,4%
Trimester II	23	44,2%
Trimester III	21	40,4%
Parity		
Primigravida	25	48,1%
Multigravida	27	51,9%

Table 1 shown that respondents characteristics were aged 20-35 of 45 people (86.5%), high school education 34 people (65.4%), housewives 27 people (51.9%), second trimester 23

people (44.2%), and multigravida 27 people (51.9%).

2. Knowledge Level of Pregnant Women about Anemia

Table 2 Knowledge Level of Pregnant Women about Anemia

No	Knowledge	Number of Respondent	(%)
1	Kurang	3	5.8%
2	Cukup	21	40.4%
3	Baik	28	53.8%
Total		52	100.0%

Table 2 shown that 28 pregnant women (53.8%) had a good level of knowledge, 21 people (40.8%) had sufficient knowledge, and 3 people (5.8%) had poor knowledge. So it can be stated that the level of knowledge about anemia in pregnant women is included in the good category.

3. Anemia Incidence

Table 3 Pregnancy Anemia Incidences

No	Anemia	Number of Respondent	(%)
1	Normal	37	71.2%
2	Poot	12	23.1%
3	Moderat	3	5.8%
Total		52	100.0%

Table 3 shows that 37 people (71.2%) pregnant women at the Grogol Community Health Center did not experience anemia (normal), 12 people (23.1%) had mild anemia, and 3 people (5.8%) had moderate anemia. So it can be stated that the majority of pregnant women do not experience anemia (71.2%).

4. Correlation of Level of Knowledge and Incidence of Anemia

Table 4 Correlation of Knowledge Level and Incidence of Anemia

Correlation	Correlation Coefficient	Sig. (2-tailed)
Spearman's rho	-0.340	0.014

Based on the analysis results used Spearman Rank was obtained the sig value of 0.014 ($p \leq 0.05$) statistically shown that there is a correlation knowledge and pregnancy anemia. The correlation coefficient value of -0.340 indicated that the correlation strength is sufficient in the opposite direction, meaning that the higher knowledge level, the lower anemia incidence.

DISCUSSION

1. Characteristics of Pregnant Women at the Grogol Health Center, Sukoharjo Regency

The research shown the largest respondents number were pregnant women aged 20-35 years, namely 45 people (86.5%). Age is a determining factor in the occurrence of anemia in pregnancy. This is because a person's age determines their reproductive organs. The ideal age for pregnancy is 20–34 years. Women who become pregnant at the age of <20 years and >35 years can be at risk of anemia. Ages under 20 years are considered biologically immature, emotionally unstable and mentally immature so that there is easily a lack of nutritional intake during pregnancy. Ages over 35 years begin to show signs of declining physical strength and endurance so that they are susceptible to disease (Ariendha, 2022).

The research results showed that the respondents were high school education of 34 people (65.4%). Education greatly determines the level of knowledge.

People with higher education are considered to have more knowledge than those with lower education. The aspects of education and knowledge will determine a person's attitude towards an event. In the case of anemia, pregnant women who have higher education will have sufficient knowledge so that they can behave appropriately to prevent anemia (Salsabilah, 2022).

The research results showed that the largest number of respondents were pregnant women who worked as housewives, namely 28 people (51.9%). Work is also a factor in the occurrence of anemia due to an increase in workload which causes mothers to become tired, stressed and experience a decrease in Hb levels, which triggers anemia in pregnant women. Pregnant women who work are vulnerable to suffering from anemia which is caused by depletion of energy not only from the pregnancy process but also from work activities. Anemia sufferers will find it difficult to concentrate and get tired easily, which will impact the quality of the work they do (Bakhtiar, 2021).

The research results showed that the majority of respondents were second trimester pregnant women, 23 people (44.2%). During the second trimester of pregnancy, to support the development of the fetus during pregnancy and prepare the mother for pregnancy and childbirth, the pregnant woman's body will experience physiological changes, one of which is in the cardiovascular system. The amount of plasma will increase significantly, where the peak of this increase will occur in the third trimester. An increase in the amount of plasma that is not commensurate with the increase in red blood cells will have an impact on hemoconcentration, a decrease in hematocrit and the number of

erythrocytes or what is called hemodialysis (Aksari and Imanah, 2022).

The research results showed that the majority of respondents were multigravida 27 people (51.9%). Parity is the determine factors of anemia occurrence. Pregnant women who have given birth more than twice cause the mother's physical and psychological condition to become weak. Multigravida mothers require more iron intake both for pregnant women and for their fetuses. Multigravida mothers often experience iron deficiency, because Fe that is not optimal has been absorbed more, causing iron deficiency (Palifiana, 2021).

2. Knowledge Level of about Anemia

Research results shown 28 pregnant women had a good level of knowledge (53.8%), 21 people had sufficient knowledge (40.8%), and 3 people had insufficient knowledge (5.8%). So it can be stated that knowledge level about anemia is included in the good category.

This results supported Lindung (2018) which stated that respondents have good knowledge level (50%). Likewise, research conducted by Riza (2023), majority of respondents is good knowledge (76.2%). Knowledge is related to health behavior. Individuals who have good knowledge will find it easier to get information related to health. Education also determines a person's skills to get information related to nutrition and health behavior. Education determines the ease of a person to increase knowledge. Pregnant women who have good knowledge can choose to consume balanced food according to their needs during pregnancy (Purwaningtyas & Prameswari, 2017)

3. Incidence of Anemia in Pregnant Women

The research shown that 37 pregnant women did not experience anemia (normal) (71.2%), 12 mild anemia (23.1%), and 3 people (5.8%) moderate anemia. So it can be stated that the pregnant women do not experience anemia (71.2%). The research results was supported by Riza (2023) which stated that the majority of respondents did not anemia.

The prevalence of anemia is caused by a complex interaction between political, ecological, social and biological factors but is mostly caused by socio-economic factors. The cause of pregnancy anemia is lack of iron and micronutrients which are less than daily requirements and efforts made by the Government through the health service by providing blood supplement tablets regularly (Salma et al., 2022).

The cause of anemia in pregnant women is iron deficiency. Pregnant women need more nutritional intake to meet the needs of fetal growth and the needs of the pregnant woman herself. Anemia is characterized by a lack of hemoglobin formed from iron. This hemoglobin is useful for binding oxygen which is very much needed by the body for cell metabolism (Meliyani, et al., 2022).

4. Correlation of knowledge about anemia and the incidence of anemia

The results of Spearman Rank test was obtained the sig value of 0.014 ($p \leq 0.05$) statistically shown that there is a correlation knowledge about anemia and the anemia incidence. The correlation coefficient value of -0.340 indicated that the correlation strength is sufficient in the opposite direction, meaning that the

higher the knowledge level, the lower the anemia incidence.

This results supported by Riza (2023) showed correlation knowledge, attitudes and anemia incidence. Therefore, health education related to anemia is needed so that pregnant women can improve their understanding of anemia and behave appropriately to prevent anemia during pregnancy. This research is also supported by Ariendha, et al. (2022), that knowledge was correlated to the pregnancy anemia.

Knowledge about anemia is one of the determining factors of pregnant women's behavior to prevent anemia. Lack of knowledge causes pregnant women's behavior in preventing anemia to be less good. Pregnant women with low knowledge will consume food that is less in accordance with the needs, causing iron deficiency. Iron deficiency can pose a risk to the fetus and the pregnant woman herself. The fetus will experience disturbances or obstacles to growth, both body cells and brain cells. Apart from that, it can also result in death of the fetus, abortion, birth defects, and LBW (Suhartatik et al., 2019).

CONCLUSIONS

1. Respondent characteristics are 20-35 years (86.5%), high school (65.4%), housewives (51.9%), second trimester (44, 2%), and multiparous (51.9%)
2. The level of knowledge about anemia in Grogol Community Health Center included in the good category.
3. The majority of pregnant women do not experience anemia (normal).
4. There is a significant correlation between the knowledge level and the incidence of anemia in the Grogol Community Health Center (sig. value $0.014 \leq 0.05$).

SUGGESTION

1. For Pregnant Women
Pregnant women need to increase their knowledge, comply with taking Fe tablets, and continuously monitor nutritional status.
2. For Community Health Centers
It is hoped that community health center officers will continue to provide Fe tablets to pregnant women and monitor the nutritional status of pregnant women and provide education about the importance of preventing anemia.
3. For further researchers
It is hoped that future researchers can carry out further research on other variables such as iron intake and food consumption patterns and others that are related to the incidence of anemia.

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