

# Knowledge and parity prevention of anemia in pregnancy



Tutik Ekasari<sup>1\*</sup>, Mega Silvian Natalia<sup>1</sup>, Muthmainnah Zakiiyah<sup>1</sup>

## ABSTRACT

**Introduction:** The largest public health issue in the globe, particularly for women who are close to childbearing age, is anemia. Anemia during pregnancy is said to be “dangerous to mother and child”. In 2015, Indonesia’s maternal mortality rate (MMR) was 305 per 100,000 KH. Pregnancy who experienced anemia in the world are still very high. The prevalence of anemia in pregnancy is 41.8%. In Indonesia, the increasing in the incidence of anemia in pregnancy from 37.1% in 2013 to 48.9% in 2018. One of the causes of anemia in pregnant women is the knowledge and parity. This study aimed to analyze the knowledge and parity of the incidence of anemia in pregnant women.

**Methods:** The research design is cross-sectional with the independent variables which are knowledge and parity. The dependent variable is the incidence of anemia in pregnant women. The population used by all pregnant women is 48. The sampling technique uses total sampling and collecting data using questionnaires and interviews. Data analysis used univariate and bivariate.

**Results:** The results of research informed that most pregnant women had anemia, around 56.2%. The results of the statistical analyses revealed a p value of 0.007, indicating a relation between parity and the prevalence of anemia. Besides that, there was a relation between knowledge and the prevalence of anemia.

**Conclusion:** There is an influence between knowledge and parity on the incidence of anemia in pregnant women. Countermeasures that can be done by providing information communication and education on pre-wedding preparation.

**Keywords:** knowledge, parity, anemia, pregnancy.

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<sup>1</sup>Sekolah Tinggi Kesehatan Hafshawaty Pesantren Zainul Hasan, Probolinggo, Indonesia;

\*Corresponding author:  
Tutik Ekasari;  
Stikes Hafshawaty Pesantren Zainul Hasan, Probolinggo, Indonesia;  
ekasari372011@gmail.com

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## INTRODUCTION

The biggest public health issue in the world is anemia, which is particularly problematic for pregnant women. Anemia in women of childbearing potential can cause fatigue, weakness, reduced capacity/performance, or work productivity. Anemia during pregnancy is most frequently brought on by iron and folic acid deficiencies. Acute bleeding may occur due to interaction between the two.<sup>1</sup>

Anemia during pregnancy can affect the growth and development of the fetus during pregnancy and childbirth. Miscarriage, prenatal depression, perinatal mortality, early birth, low birth weight, and intrauterine development retardation. Pregnant women may also experience heart failure, an early placental membrane rupture, retained placenta, postpartum bleeding owing to uterine atony, and even mortality from childbirth if anemia is not treated right once.<sup>2</sup>

Anemia that occurs during pregnancy

can potentially cause maternal death. According to the 2015 Census Rate Survey, Indonesia’s Maternal Mortality Rate (MMR) was 305 per 100,000 KH.<sup>3</sup> There are still a lot of pregnant women in the globe who have anemia. According to information from the World Health Organization (WHO), 41.8 percent of pregnant women experience anemia. In Indonesia, there was an increase in the incidence of anemia in pregnancy, which was originally 37.1% in 2013 and increased to 48.9% in 2018.<sup>3</sup>

Anemia was found to be 5.8% common in pregnant women in East Java, according to a prior study. Anemia in East Java is classified as a public health problem that needs to be resolved, as anemia can be defined as a public health problem if the prevalence exceeds her 5%. Among Probolinggo Regency, there are no published statistics on the prevalence of anemia in pregnant women. Probolinggo Regency has a 33 percent anemia

prevalence among working-age women. Women of working age in Probolinggo had a higher prevalence of anemia than the previous national average of 22.7%.<sup>4</sup>

Knowledge is one of the factors that influence the formation of healthy behavior. Pregnant women know and understand the negative effects of anemia and how to prevent it, so they are expected to avoid the risks of various illnesses and anemia during pregnancy and become healthy. You can perform various actions. Such behavior can affect the reduced incidence of anemia in pregnant women.<sup>5</sup>

Along with knowledge, parity influences the likelihood of anemia in pregnancy. The number of children the mother has had up until the last delivery is known as parity. The safest number of parities is 2-3 children. Grande Multi Para, four or more children were born to the mother. If the mother gives birth too often, the uterus will be weaker so that the risk of disruption during labor is higher,

including bleeding. Thus, it is found that many mothers' health conditions are disturbed by anemia, malnutrition; sagging of the abdominal wall; looks like a mother with a hanging belly; slack in the uterine wall. The dangers that can occur are position abnormalities, transverse delivery, uterine tears in transverse abnormalities, prolonged labor, postpartum bleeding.<sup>6</sup> The women that too often pregnant can deplete the reserves of nutrients in the body. Research shows that there is a relationship between parity and the incidence of anemia.<sup>10</sup> Other factors, including as attitudes, behaviors, and the interval between prior pregnancies, that have an impact on pregnant women with parity > 3 are what cause this. Additionally, it was discovered during the study that many pregnant women, especially those carrying their first child, had parity 3, so there was no discernible difference between pregnant women who were anemic and those who were not. The characteristics of pregnant women who are mostly unemployed or housewives are thought to have influenced it, because housewives also do little physical activity.<sup>1</sup>

Countermeasures that can be done to reduce the incidence of anemia in pregnant women are to provide education to prospective bridal couples about pre-marital preparation and recommend that pregnant women have regular check-ups from the time they are known to be pregnant as an early detection of anemia by checking hemoglobin (Hb), consuming nutritional foods, balanced with adequate iron intake and implementing a program from the government, namely giving iron tablets to pregnant women and monitoring how to drink them. This study aimed to analyze the knowledge and parity of the incidence of anemia in pregnant women.

## METHODS

### Study Design

This study uses analysis to show how different factors relate to one another. This study is cross-sectional in design. Research variables are measured at the present time so that a picture of the situation is obtained at that time. The sample of this study were all pregnant women namely 48 respondents. The sampling method used in this study is the entire population

selected by non-probability sampling with a saturated sampling technique or total sampling; is a sampling technique when all members of the population are used as samples.

### Data Collection

Data was collected by using a questionnaire to collect primary data. The questionnaire used was a closed and open type of questionnaire in which the respondent only had to choose an answer that had been provided or by giving a certain mark from a number of questions asked. The next researcher looks for a subject that fits the characteristics of the research subject. In the implementation of this research, the researcher made an agreement with the subject regarding the time and place to disseminate the questionnaire. From the results of data collection, editing, coding, and tabulating were carried out.

### Data Analysis

The data analysis of this research used chi square with SPSS for windows. The limit of significance used in this study is = 0.05, which means the error rate tolerated in this study is 5%, if 0.05, it means that the research hypothesis is accepted.

## RESULTS

The results of parity analysis and knowledge of the incidence of anemia in pregnant women include general data which includes the incidence of anemia in pregnant women. As for the special data, including parity and knowledge. The

results are as follows:

Based on [table 1](#) shows that most of the respondents experienced anemia in pregnancy, namely a number of 27 respondents (56.2%).

Based on [table 2](#) shows that most of the respondents have low parity, namely a number of 26 respondents (54.2%).

Based on [table 3](#) most of the respondents have good knowledge, namely 28 respondents (58.3%).

Based on the bivariate analysis showed that of the 22 respondents with high parity, 17 (62.9%) were anemic, while from 26 respondents with low parity, 10 (37.1%) were anemic. The results of the statistical analyses revealed a p value of 0.007, indicating a relation between parity and the prevalence of anemia.

Based on the bivariate analysis, it showed that of the 20 respondents with poor knowledge, there were 16 (59.2%) who were anemic, while of the 28 respondents who had good knowledge, there were 11 (40.8%) who were anemic. The results of the statistical analyses revealed a p value of 0.005, indicating a relation between knowledge and the prevalence of anemia.

## DISCUSSION

### Analysis parity on the incidence of anemia in pregnant women

The results of this study can be interpreted as an effect of childbearing on the incidence of anemia in pregnant women with an OR of 5.440, as the p-value = 0.007. 3 or more have 5,440 chances of developing anemia

**Table 1. Distribution of the incidence of anemia in pregnant women.**

Variable	Frequency	Percent %
Anemia	27	56.2
Non-Anemia	21	43.8
<b>TOTAL</b>	<b>48</b>	<b>100</b>

**Table 2. Distributions of Respondents Characteristics Based on Parity.**

Variable	Frequency	Percent %
High > 3	22	45.8
Low ≤ 3	26	54.2
<b>TOTAL</b>	<b>48</b>	<b>100</b>

**Table 3. Distributions of Respondents Characteristics Based on Knowledge.**

Variable	Frequency	Percent %
Less	20	41.7
More	28	58.3
<b>TOTAL</b>	<b>48</b>	<b>100</b>

**Table 4. Relationship of independent variables with the incidence of anemia in pregnant women.**

Variable	The incidence of anemia in pregnant women						P value	OR
	Anemia		Non-Anemia		Total			
	n	%	n	%	n	%		
<b>Parity</b>								
High > 3	17	62.9	5	23.8	22	45.8	0.007	5.440 (1.524 – 19.414)
Low ≤ 3	10	37.1	16	76.2	26	54.2		
<b>Knowledge</b>								
Less	16	59.2	4	19	20	41.7	0.005	6.182 (1.631 – 23.433)
More	11	40,8	17	81	28	58.3		

during pregnancy.

Parity is birth after 20 weeks gestation, regardless of whether the baby is alive or dead. Maternal parity is the frequency with which mothers have given birth to live or dead children, but not abortions.<sup>7</sup> Women that are pregnant too often can deplete the reserves of nutrients in the body. The findings of Noverstiti's (2012) study indicate a connection between parity and the prevalence of anemia. Other elements that influence pregnant women with parity greater than three, such as attitudes, behaviors, and proximity to prior pregnancies, contribute to this.<sup>1</sup> Additionally, it was discovered during the study that many pregnant women, especially those carrying their first child, had parity 3, so there was no discernible difference between pregnant women who were anemic and those who were not. The characteristics of pregnant women who are mostly unemployed or housewives are thought to have influenced it, because housewives also do little physical activity. The results of this study are consistent with the study conducted by Sukmawati (2019). It is entitled "The Relationship between Childbirth and the Incidence of Anemia in Pregnant Women at the Haurpangung Health Center". According to the study's findings, anemia in pregnant women and childbirth have a substantial association, with a p-value of 0.012 (<0.05).<sup>8</sup> Women at the University of Nigeria Teaching Hospital (UNTH) were the only parity group that was significantly associated with anemia during pregnancy (P value = 0.04).<sup>9</sup>

Pregnant women with high fertility who have three or more children or who give birth frequently may have increased plasma volume. This makes it bigger than women who have a low birth rate, so it can thin the blood and increase the risk of

pregnancy complications such as: B. Risk of late pregnancy anemia due to bleeding, anemia during pregnancy, and low hemoglobin levels leading to recurrent bleeding.

#### **Analysis Knowledge of the incidence of anemia in pregnant women**

From the research results obtained p value = 0.005 so that it can be interpreted that there is an influence of knowledge on the incidence of anemia in pregnant women with an OR of 6.182 which means that pregnant women with less knowledge have 6.182 times the risk of experiencing anemia in their pregnancy.

One of the things that affects the development of good behavior is knowledge.

Pregnant women exhibit healthy habits that are expected to prevent the many repercussions and dangers of anemia during pregnancy when they are aware of the consequences of anemia and how to prevent it. Such actions may help to lower the prevalence of anemia in pregnant women.<sup>5</sup> Pregnant women with a decent degree of understanding can choose foods that will not harm their unborn child and foods that will enhance the quality of their pregnancy, especially those related to taking drugs for pregnancy, including iron supplements distributed by Puskesmas officers aimed at health during pregnancy. Pregnant women are aware of the understanding, causes, effects, and prevention of anemia is a predisposition for mothers to behave in a healthy manner in terms of overcoming anemia in themselves.<sup>10</sup> The findings of this study are consistent with those of Chandra et al (2019) and Syarfaini et al (2012) investigations, which found a substantial association between knowledge and anemia.<sup>11,12</sup>

Knowledge is necessary to support the development of self-confidence, attitudes, and actions since it plays a crucial role in determining one's own attitudes. One of the things that affects people's health behavior is knowledge. Pregnant women who have sufficient knowledge and understanding of the consequences and prevention of anemia adopt positive attitudes and actions to avoid the effects and risks of anemia during pregnancy.

#### **CONCLUSION**

There is a significant effect between the incidence and equivalence of anemia in pregnant women and knowledge, based on the results analysis of the incidence and equivalence of anemia in pregnant women and knowledge. Further research is needed to evaluate the relationships between variables with larger sample sizes.

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#### **CONFLICT OF INTEREST**

No potential conflict of interest relevant to this article was reported.

#### **AUTHOR CONTRIBUTION**

All authors similarly contribute to the think about from the investigate concepts, information acquisitions, information investigation, factual investigations, changing the paper, until detailing the consider comes about through publication.

#### **ETHICAL CONSIDERATION**

The investigators agreed to conduct this study in full agreement with the

principles of the Declaration of Helsinki' and its subsequent related amendments. This study was approved by the Ethics Committee of the Surabaya Islamic Hospital. Letter of exemption Ref. No. 1211/EC.KEPK/UMS/2020.

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