

The relationship between age and parity and the occurrence anemia in pregnant women at Umbulharjo II Primary Health Center in 2018

Fijri Rachmawati^{1*}, Dhesi Ari Astuti²

^{1,2}Aisyiyah University, West Ringroad 63 Nogotirto Gamping Sleman 55292, Yogyakarta, Indonesia

* corresponding author

Submission date: 10 Juli 2018, Receipt date: 10 Oktober 2019, Publication date: 1 April 2020

Abstract

The maternal mortality rate in Indonesia is still high at 359 of 100,000 live births, the cause of death on mothers in Indonesia is 30,3% of bleeding, 27,1% of eclampsia, 7,3% of infection, 5% of prolonged labor, 5% of abortion and 25,3% of others. Bleeding is still ranked first as a contributor to the high maternal mortality rate and anemia is one of the causes of bleeding. This study aimed to determine the relationship between age and parity and the anemia in pregnant women in Umbulharjo II Primary Health Center. The design of this study was analytical with a cross sectional approach which analyzed the anemia based on secondary data at Umbulharjo II Public Health Center in 2017. Data analysis used chi-square and Regression Logistic using SPSS 22 for Windows with p-value 0.05 and 95% of CI. The result of data analysis obtained p-value of age (0,021 <0,05), (OR=2,357, 95% of CI, (1,219-4,557) and p value of parity (0,042 <0,05), (OR =2,204, 95% of CI, (1,123-4,325). In conclusion, age had a significant relationship with the occurrence anemia in pregnancy and parity had a significant relationship with the occurrence anemia in pregnancy.

Keywords: age, anemia, pregnant women, parity

INTRODUCTION

It is estimated that in 2015, around 303,000 women died during and after pregnancy or childbirth (WHO, 2015). One of the causes of women dying of complications is anemia; WHO mentions that prevalence of anemia is 14% in developed countries and 51% in developing countries (H. Cheema et al, 2016). Anemia in pregnancy is considered as one of the main risk factors to contribute 20-40% of maternal deaths directly or indirectly through heart failure, preeclampsia, ante partum bleeding, puerperal sepsis and postpartum bleeding (Satyam & Khushbu, 2015).

Based on the 2012 Indonesian Demographic and Health Survey (IDHS), the maternal mortality rate in Indonesia was still high at 359 of 100,000 live births. The Millennium Development Goals (MDGs) program in 2015 is still not as expected. Therefore, it continued with the Sustainable Development Goals (SDG's), which is expected to reduce maternal mortality (MMR) to 70/100,000 live births (Ministry of Health, 2015).

According to the Ministry of Health (2016), the cause of death in mothers in Indonesia is 30,3% of bleeding, 27,1%, of eclampsia, 7,3% of infection, 5% of prolonged labor, 5% of abortion and 25,3% of others. Bleeding still occupies ranked first as a contributor, to the high maternal mortality rate and anemia is one of the causes of bleeding.



Anemia in pregnancy can adversely affect mortality and morbidity on mother and baby. The results of pregnancy with anemia cause miscarriage, low birth weight (LBW), premature labor, abruption of the placenta and intrauterine fetal death (Mulambalah et al, 2014; Mohsan Kudri, 2016). Meanwhile, according to Srinivasa and Srikanth (2013) says that mothers with anemia can experience palpitations, shortness of breath, increased cardiac output which leads to heart pressure which can cause decompensation compensation and heart failure which may be fatal and increase the incidence of preeclampsia and sepsis.

According to Dey and Srinivas in Ravishankar, 2016 states that the main causes of anemia during pregnancy are poor socioeconomic status, parity, short birth intervals, poor diet in quantity and quality, lack of health and nutrition awareness, and high rates of infectious diseases and parasitic infestation. Predisposing factors considered to play a role in causing anemia are education, maternal age, parity and distance of pregnancy (Amiruddin, 2012). According to Allen in the 2015 Lingling journal, said that iron requirements increased during the second trimester and third pregnancy, therefore it is recommended for pregnant women to increase their iron intake during the second and third trimesters.

Pregnancy in the mother's age <20 years old> 35 years can cause anemia, because biologically <20 years of age is not optimal, the emotions tend to be unstable, mentally immature, so pregnant women easily experience shocked which results in a lack of attention to the fulfillment of nutritional needs during pregnancy. While the age above 35 years, the woman tends to experience anemia, this is due to a decrease in iron reserves in the body due to fertilization. While parity > 4 is a factor in the occurrence of anemia, because mothers who are often pregnant can drain reserves of nutrients in the body (Arisman, 2007; Melku et al, 2014). Based on the above phenomenon, the authors want to do research on "The relationship between age and parity and the occurrence anemia in pregnant women in Umbulharjo II Public Health Center".

RESEARCH METHODS

The design of this study was analytical with cross sectional approach. The population in this study was all pregnant women in Umbulharjo II Public Health Center on January to December 2016 totally 436 pregnant women. The population of the research consisted of 436 respondents who were then sampled with the Slovin formula to produce 209 respondents. This sampling technique used simple random sampling.

This research was carried out at Umbulharjo II Public Health Center. The research was conducted in August 2018. The confounding variables in this research had been controlled. The data sources in this research were secondary data. The collection of secondary data was by looking at Cohort report in 2017 that conducted examinations in the area of Umbulharjo Primary Health Center II.

RESULTS AND DISCUSSION

The instrument in this study was a checklist sheet (√) which was sourced from secondary data in the form of medical record, then which was recorded in a checklist paper. Data processing techniques were done by editing, coding, entry, and cleaning thoroughly. Then, the data was analyzed using Statistical Product and Service Solutions (SPSS) version 2.2 for Windows. Data analysis was performed univariate for frequency distribution, Chi-square test for bivariate. Health Technology Assessment (HTA),

researchers searched for journal references that could be related to aspects found in HTA about anemia.

Characteristics of Respondents

Anemia in Umbulharjo II Primary Health Center occurred in 74 respondents (36,4%); the risky aged was 50 respondents (23,9%); risky parity was 47 respondents (22,5%); gestational age Ist Trimester was 69 respondents (33,0%); IInd Trimester was 67 respondents (32,1%); IIIrd Trimester was 74 respondents (34,9%), and risky LILA was 47 respondents (22,7%).

Table 1. Relationship between age and anemia in the area of Umbulharjo II Public Health Center in 2018

Category	Anemia		Not Anemia		Total (N)	%	P Value
	N	%	N	%			
Age of Risk	23	48,9	24	51,1	47	100	0,042
Age of Not Risk	51	31,5	111	68,5	162	100	
Total	74	35,4	135	64,6	209	100	0,042

Source: secondary data (2018)

The results of the study based on Table 1 above shows that 50 of pregnant women with a risky parity, 25 respondents (50%) experienced anemia, while of 159 pregnant women with age are not at risk, 49 respondents (30,8%) pregnant women had anemia. Statistical results prove that there was a relationship between the age of pregnant women and the occurrence of anemia where the p value is 0,021. This research is in line with Hasiana et al (2015) also states that there is a relationship between age and the occurrence of anemia in pregnant women with p value of 0,036. The value of OR=2,357, and CI is 95% (1,219-4,557) which is resulted shows that age at risk is 2 times more at risk of anemia in pregnancy with the 95% trusted level.

Table 2. Relationship between maternal age and occurrence of anemia in the Umbulharjo II Public Health Center in 2018

Category	Anemia		Not Anemia		Total		P Value
	N	%	N	%	N	%	
Parity at Risk	23	48,9	24	51,1	47	100	0,042
Parity not at Risk	51	31,5	111	68,5	162	100	
Total	74	35,4	135	64,6	209	100	0,042

Source: secondary data (2018)

The results of the study based on table 2 above shows that of 47 pregnant women with parity at risk, 23 respondents (48,9%) experienced anemia, while 162 pregnant women with no risky parity; 51 respondents (31,5%) pregnant women experienced anemia. Statistical results proved that there was a parity relationship between pregnant women and the occurrence of anemia where the p value was 0,042. The value of OR= 2,204, and CI was 95% (1,123-4,325) which shows that parity at risk was 2 times more at risk of anemia in pregnancy with the 95% trusted level.

Based on table 1 it can be concluded that there was a relationship between age and the occurrence of anemia in pregnant women in the Umbulharjo II Public Health Center area in 2018 with a p value of 0,021. This research is in line with Hasiana et al (2015) also states that there is a relationship between age and the occurrence of anemia in pregnant women with a p value of 0,036. The value of OR= 2,357, and CI is 95%

(1,219-4,557) which is resulted shows that age at risk is 2 times more at risk of anemia in pregnancy with the 95% trusted level.

This research is also in line with Nadia et all (2015) which stated that there is a tendency that the higher the age of pregnant women, the higher the occurrence of anemia. According to Manuaba (1998), pregnancy at a young age can be detrimental to maternal health as well as fetal development and growth, one of which will result in anemia that had a higher frequency of occurrence than pregnancy at a healthy age. At the age of <20 years, the condition of the reproductive device is not ready to receive pregnancy, this will increase the occurrence of anemia in pregnancy. Whereas over the age of 35 years there is more change in the network of uterine devices and the birth canal is not flexible anymore as well as blood vessels.

Based on table 2 it can be concluded that there was a relationship between parity and the occurrence of anemia in pregnant women in the Umbulharjo II Public Health Center area in 2018 with a *p value* of 0,042. The *value* of OR= 2,204, and CI is 95% (1,123-4,325) which is resulted shows that parity at risk is 2 times more at risk of anemia in pregnancy with the 95% trusted level.

This research is in line with H.K Chemme, et all in 2016 which took data from the Punjab Institute of Medical Medicine, Jalandhar from July 2015 to December 2015 shows a tendency that women with parity > 3 has a risk of anemia in pregnancy. Parity is a risk factor for anemia in the mother. In the first trimester of pregnancy, iron is needed a little because menstruation does not occur and fetal growth was still slow. At the beginning of the second trimester fetal growth is very fast and the fetus was active, which is sucking and swallowing amniotic fluid so that more oxygen needs are needed. As a result iron requirements are increasing to compensate for increased erythrocyte production and are prone to anemia, especially iron deficiency anemia. You need to watch out for mothers who have been pregnant or give birth 4 or more times, so it is likely that there will be a lot of disturbed health conditions, anemia due to a lot of blood loss during childbirth, and malnutrition.

CONCLUSION

Based on the results of the research of the relationship of age and parity with the occurrence of anemia in pregnant women in the Umbulharjo Public Health Center II Area 2018, the results of a significant statistical test obtained that H_a was accepted; H_0 was refused. *U-value* (0,021 <0,05), (OR = 2,357, 95% CI, (1,219-4,557) and *p value* parity (0,042 <0,05), (OR = 2,204, 95% CI, (1,123- 4,325). It was concluded that the age was more significant in experiencing anemia in pregnant women with $\text{Exp } \beta$ 2,357 which means age had 2,357 chances greater occurs in pregnant women.

REFERENCES

- Amiruddin, R. (2012). *Surveilans Kesehatan Masyarakat*. IPB Press. Bogor.
- Arisman .(2007). *Gizi Dalam Daur Kehidupan*. EGC: Jakarta
- Hasina, et all,. (2015). Factors associated with maternal anaemia among pregnant women in Dhaka city. MC Women's Health.
- H.K. Cheemaet all .(2016). Prevalence and Possible Risk Factors of Anaemia in Different Trimesters of Pregnancy. *International Journal of Contemporary Medical Research*, Vol 3
- Ida Bagus Gede. (1998). *Ilmu Kebidanan Penyakit Kandungan dan Keluarga Berencana untuk Pendidikan Bidan*. EGC: Jakarta

-
- Kemenkes. (2015). Kesehatan Dalam Kerangka Sustainable Development Goals (SDGs) Manuaba
- Melku et al,. (2014). *Prevalence And Predictors Of Meternal Anemia During Pregnancy In Gondar, Northwest Ethiopia: An Institutional Based Cross-Sectional Study*. Hindawi Publishing Corporation. Ethiopia
- Mohsan Khudri. (2016). Recounting Iron-Deficiency Anemia to Pregnant Women and Adolescents: A Cause for Concern. *Journal of Biometrics & Biostatistics International*
- Mulambalahet all. (2014). Anaemia in pregnancy: Prevalence and possible risk factors in Kakamega County, Kenya. *Science Journal of Public Health*
- Nadia et al,. (2015). Prevalence and Factors Associated with Anemia Pregnancy in a Group of Moroccan Pregnant women. *Journal of Biosciences and Medicines*
- Satyam Prakash & Khush bu Yadav.(2015). Maternal Anemia in Pregnancy: An Overview. *International journal of pharmacy & pharmaceutical research*, Vol 4
- Srinivasadan Srikanth, .(2013). Prevalence of Anemia in the First Trimester of Pregnancy in Rural Population of Krishna District in Andhra Pradesh. *Scholars Journal of Applied Medical Sciences*