

Relationship Of Anemia And Premature / LBW With Early Marriage And Healthy Reproductive Age

Melfi Suryaningsih¹, Asfriyati², Heru Santosa²

¹Postgraduate Student-Public Health Science University of Sumatera Utara, Medan, Sumatera Utara 20155, Indonesia

²University of North Sumatera, Medan, Sumatera Utara 20155, Indonesia

Corresponding Author: Melfi Suryaningsih¹

Abstract: Teenage pregnancy as a result of early marriage becomes one contributor high mortality of mother and baby. Reproductive organs that are not ready for pregnancy and childbirth lead to the emergence of various complications, two of which are in pregnancy anemia and premature / LBW. Wedding rates occur in adolescents at Hapesong Lama village in 2017 is about 15% and the number of mothers aged 15-49 years old who have been married at the age of under 19 years old and that is equal to 43.6%. The aim of this study is to analyze the relationship between mothers who married at a young age and healthy reproductive age married with anemia in pregnancy and premature / LBW that occur in society. This study is survey with cross sectional design using probability sampling technique with random sampling, the number of samples is 78 people. Data analysis used univariate and bivariate analysis. The results showed there was a relationship between mothers who married at a young age and married at healthy reproductive age with anemia in pregnancy and premature / LBW ($p = 0,019 < 0,05$ and $p = 0,038 < 0,05$). Mothers with early marriage have more risk of anemia in pregnancy and premature / LBW. Suggestion from this study to the education and health offices is able to jointly take adequate precautions for counseling in schools about the impact of early marriage, especially high schools (junior high / senior high). Because generally, early marriage occurs at the age of 17-19 years old, when the teenagers have graduated from high school.

Keywords –Anemia, Premature, LBW, Early Marriage, Healthy Reproductive Age

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I. Introduction

Based on data from the United Nations Economic and Social Affairs (UNDESA) 2011, Indonesia has ranked 37th in the world about young marriage. It is the second highest position in ASEAN right after Cambodia [1].

Age Specific Fertility Rate (ASFR) for the age of 15-19 years describes the number of pregnancies in adolescents aged 15-19 years. The result of the 2012 Indonesia Demographic and Health Survey (IDHS), ASFR for the age of 15-19 years is 48 per 1000 women aged 15-19 years while the target expected in 2015 is 30 per 1000 women aged 15-19 years [2].

The fatal and submerged condition of the soul will be experienced by 14.2 million girls worldwide who become young brides during 2011-2020. The marriage of the child's age is exposed to pregnancy and early childbirth, which is associated with high maternal mortality and abnormal conditions for the mother because the female body is not fully mature to give birth. Girls aged 10-14 years are five times more likely to die in cases of pregnancy and childbirth aged 20-24 years, and globally death caused by pregnancy and childbirth are the leading causes of death for girls aged 15-19 years. Children infected with diseases associated with much higher labor, such as obstetric fistula, infection, severe bleeding, anemia and eclampsia. Study showed that the early marriage in Indonesia related to poor health [3].

Babies born from girls who married at a young age have a higher risk of death, and more than twice as likely to die before the age of one year as compared to children born from a twenty-year-old mother. Babies born from mothers under 20 also have a higher likelihood of premature birth, low birth weight, and malnutrition. This is directly related to married women who are very young at the time of pregnancy and childbirth, when they themselves have higher level of malnutrition and their bodies have not grown perfectly. When a girl is still in the process of growing, her nutritional needs will compete with the nutritional needs of fetus [4].

The result of Hartono's study conducted at Immanuel Hospital on the comparison of risk of maternal and infant complications in teenage pregnancy with healthy reproductive age is that adolescent age group has risk of premature at 5 times higher, giving birth to infants with low birth weight 3 times higher than the healthy reproductive age group [5].

Complication experienced during teenage pregnancy is anemia in pregnancy and premature/ LBW. Anemia in pregnancy is an important public health problem worldwide, the prevalence could be as high as 35-75% (average 56) in developing countries [6]. Early age at first marriage is considered to be a high risk to anemia due to lower body iron stores at a young age. Early marriages known for their association with health problems include early pregnancy, leading to higher maternal and infant mortality rates [6], [7], [8].

Anemia in pregnancy increases the frequency of complications in pregnancy and childbirth. Antepartum and postpartum haemorrhage are more common in women who are anemic and more often fatal, because women with anemia can not tolerate blood loss. The impact of anemia in pregnancy varies from mild complaints to impaired survival of abortion, immature / premature parture), complications of labor (inertia, atonia, old partus, atonic bleeding), puerperal complications (uterine subinvolution, resistance to infection and less stress, low milk production), and impairment of the fetus (abortion, dysmaturity, microsomy, LBW, and perinatal mortality) [7].

Other studies have also found that teenage pregnancy is at risk for premature births / LBW [4], [9], [10]. A study in the Republic of Tanzania analyzed the impact and prevention of maternal risk factors for dealing with poor births. Overall, 8.2% of live births were LBW and one of the causes was pregnancy and birth at a young age [11].

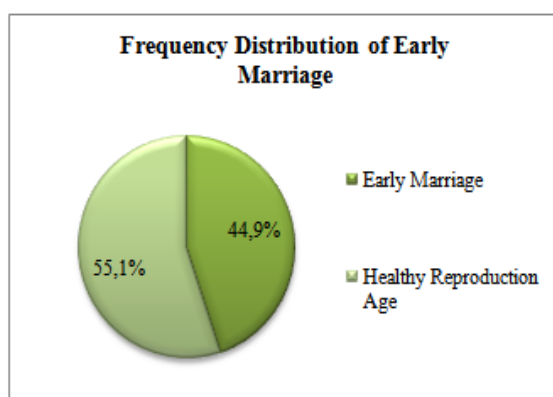
Hapesong Lama village is an agricultural village belonged to the poor category. The weak economy condition and high school graduation have become the reason for many early marriages in the community. The number of marriages in 2017 reached 36 couples and married at young age 43 (15%) and the number of mothers aged 15-49 years who have been married under the age of 19 years of 43.6%. Initial survey conducted by interviewing 15 mothers, there were 8 people who experienced the characteristics of anemia pregnancy and 5 LBW babies, as a high-risk impact that occurs in infants.

II. Methods

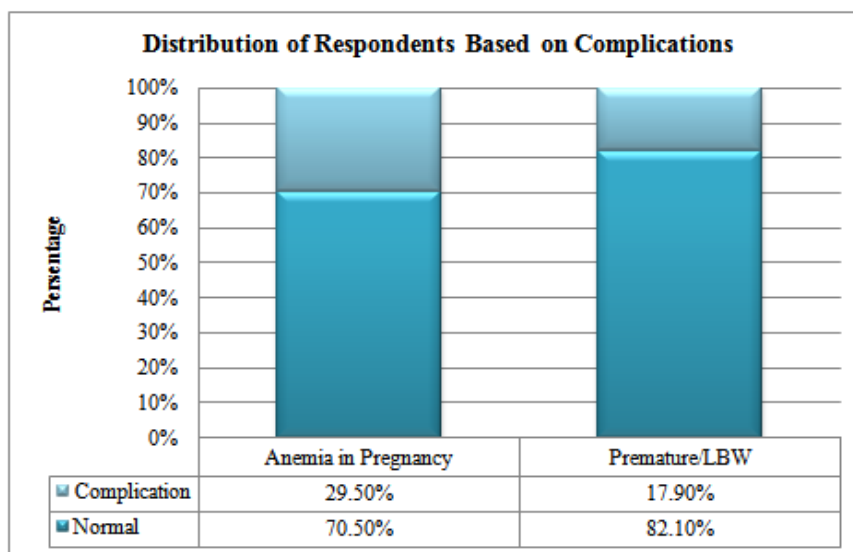
The type of this research is survey research with cross sectional approach. The population of this study are mothers aged 15-49 years who have or have been married in Hapesong Lama village Batang Toru District. The sample in this study were 78 mothers aged 15-49 years who have or have been married in Hapesong Lama village Batang Toru District. Sampling technique used in this research is probability sampling with simple random sampling.

III. Result And Discussion

Characteristics of respondents by age, ethnicity and number of children are known that the majority of respondents aged 20-35 years (65.4%), consisting of 59 people (75.6%) have Javanese tribe, 39 people (50%) with 2-3.



The study was conducted in Hapesong Lama village in 78 women aged 15-49 years who have or have been married. 78 respondents found as many as 35 people (44.9%) mothers who married early and 43 people (55.1%) married with healthy reproductive age.



The chart shows that the incidence of early marriage is 35 people (44.9%) and married at healthy reproductive age of 43 people (55.1%), 23 people (29,5%) had anemia in pregnancy and preterm labor / LBW 14 (17.9%).

Table 1. Relationship of Anemia and Premature / LBW with Early Marriage and Healthy Reproductive Age

No	Variable	Anemia in Pregnancy				Total		OR 95% CI	P value
		Anemia in Pregnancy		Normal		n	%		
		n	%	n	%				
1	Early Marriage	15	42,9	20	57,1	35	100	3,281 1,185-9,089	0,019
	Healthy Reproductive Age	8	18,6	35	81,4	43	100		
2	Variable	Pematute / LBW				Total		OR 95% CI	P value
		Pematute / LBW		Normal		n	%		
		n	%	n	%				
	Early Marriage	10	28,6	25	71,4	35	100	3,900 1,102-13,799	0,038
	Healthy Reproductive Age	4	9,3	39	90,7	43	100		

Table 1. above illustrates the relationship of early marriage and healthy reproductive age with anemia in pregnancy and premature / LBW. Statistical result found that anemia in pregnancy and preterm labor / LBW has a significant association with married age (p value <0.05).

Based on study conducted by Hartono in Immanuel Hospital on comparison of risk of maternal and infant complication in teenage pregnancy with healthy reproduction age, it can be concluded that adolescent age group has risk of prematurus partus five times higher, giving birth to low birth weight babies three times higher than the healthy reproductive age group [5].

Based on study conducted by Mohammed, et.al. in Baghdad showed an association of pregnancy with anemia. In addition, the first child's pregnancy also has a meaningful relationship with the prevalence of pregnancy anemia. 43.3% of pregnant women aged 18-21 who have anemia in the first pregnancy, this is related to the level of knowledge of pregnant women about the dangers that will be caused by anemia [6].

Women of reproductive age experience iron loss during menstruation. The average blood loss at the time of menstruation is about 30 ml / day. The lack of iron-rich nutrient intake in women during menstruation exceeds anemia. Similarly, when pregnant teenage girls, the need for iron substances will be increased, used for growth and development of the fetus. On the other hand, at the same time young women themselves also experience a very rapid growth phase (spurt growth) which requires nutrients for growth and development is also high, at this time the teenage body will share the nutrients for the development of body and the growth of the fetus. There fore, they could experience anemia of pregnancy.

Based on theory, anemia in pregnancy is also caused by physiological changes during pregnancy that is the increase in plasma and red blood cells are not comparable resulting in hemodilusi or dilution. Treatment of

anemia that is not addressed risk of causing LBW and bleeding at the time of delivery or after childbirth. In addition, anemia will also cause decreased immunity system that can trigger an infection [12].

Pregnancy anemia increases the frequency of complications in pregnancy and childbirth. Antepartum and postpartum haemorrhage are more common in women who are anemic and more often fatal, because anemic women cannot tolerate blood loss. The effects of anemia on pregnancy vary from mild complaints to complications of pregnancy (abortion, immature / premature parting), complications of labor (inertia, atonia, old partus, atonic bleeding), postpartum complications (uterine subinvolution, resistance to infection and less stress, low breastfeeding production), and impairment of the fetus (abortion, dysmaturity, microsomy, LBW and perinatal mortality) [7].

From the results of studies conducted discovered that mothers who are known to have anemia are not entirely preterm births or babies born with LBW. In total of 23 people who experienced anemia in pregnancy, and three of them deliver babies with LBW.

Some things that are supposed to be the reasons for the incompatibility of studies with theories that say mothers with anemia in pregnancy will give birth to babies with LBW are family support and antenatal care visits. The understanding of the Hapesong Lama village community about the importance of antenatal care is good enough. Once the pregnancy is identified by the family, the family ensures the pregnant mother does not get into trouble during her pregnancy and her delivery by ensuring maternal and fetal health during pregnancy and delivery preparation through antenatal care (ANC) visits to health facilities. Because one of the determinants of increasing maternal mortality and morbidity according to Mc.Carthy and Maine theories is access to health services and health services utilization, including antenatal care. Antenatal care was obtained by the mother from the public health service center (PUSKESMAS). There are health check with 10T standard. And on the seventh program is giving tablets of at least 90 tablets of iron during pregnancy to prevent anemia. Early pregnancy is a risk factor for complications of pregnancy, childbirth and the puerperium. ANC is expected to prevent complications that can increase maternal and infant morbidity and mortality rates.

High premature delivery and low birth weight are closely related to pregnancy anemia. The high level of nutritional needs during adolescence and followed by the need for fetal growth causes the body to share nutrients to both processes experienced by the body. If the intake of nutrients, especially iron required is not met then teenagers will experience anemia pregnancy that potentially cause complications of pregnancy, childbirth and puerperium.

Based on the study shows that premature / LBW mostly occurred in mothers who early married compared to mother married with healthy reproduction age. The impact that will be experienced by the baby is retardation of growth and development, lower the level of intelligence and will ultimately create a less qualified human resources. [12], [13].

A study conducted in the UK found a relationship between teenage pregnancy and premature birth. Teenage mothers are at high risk for preterm delivery compared with healthy reproductive age pregnancies [4]. also stated that there is a relationship between maternal age with the incidence of delivery of infants with low birth weight even with an OR number of only 1.33 [10].

Tabel 2. Relationship of Anemia and Premature / LBW with Reproduction Health

Variable	Reproduction Health				Total		OR 95% CI	P value
	Risk		Normal					
	n	%	n	%	n	%		
Early Marriage	32	91,4	3	8,6	35	100	13,474 3,572-50,827	0,000
Healthy Reproductive Age	19	44,2	24	55,8	43	100		

Complications of labor are conditions that can be life-threatening to the mother or fetus due to the disruption as a direct result of pregnancy or childbirth such as bleeding, infection, pre-eclampsy, old partition / stuck, abortion, uterine rupture requiring obstetric management without prior planning.

Relationship of early marriage with reproductive health age in mothers who married young age and healthy reproductive age women are taken based on the complications experienced by the respondents. Respondents who experienced one or more complications were found to be at increased risk of maternal and infant morbidity and mortality, while mothers without complications were found to have healthy reproductive health.

Table 2. shows 35 mothers who married at young age as many as 32 people (91.4%) who have reproductive health at risk, whereas from 43 mothers who married healthy reproductive age obtained 19 people (44,2%) who have health reproduction at risk. Calculation using Chi-Square test showed that there was a

significant relationship between married young age or married healthy reproductive age with reproductive health status shown by p value = 0.000 smaller than $\alpha = 0.05$ and OR value obtained OR = 13,474 (95 % CI 3,572-50,827).

IV. Conclusion

There is a significant relationship between anemia in pregnancy and premature / LBW with early marriage and marriage at healthy reproductive age. Early married women have a three times higher risk of having anemia and three times higher premature labor / LBW compared with mothers who married at healthy reproductive age. Early married women are 13 times more likely to have reproductive health status at risk because they will have pregnancy complications. Based on the complications occurred, it could be known that young married mothers have reproductive health status at risk compared with mothers who married at healthy reproductive age.

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