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The correlation between anemia and the incidence of premature rupture of membranes (prom) at regional Public Hospital Panembahan Senopati Bantul

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Abstract

The incidence of premature rupture of membranes ranges from 5-10% of all partum. Preterm PROM occurs in 1% of all pregnancies, 70% of cases occur in term pregnancies and 30% of occurrence of PROM causes of premature birth. This study aimed to determine the correlation between anemia and the incidence of premature rupture of membranes at Regional Public Hospital of Panembahan Senopati Bantul in 2016-2017. The research design was analytic survey method using retrospective time approach. The sample technique used total sampling of 172 mothers with premature rupture of membranes. Based on data analysis it was found that partum women with mild anemia, as many as 155 respondents (90.1%), had premature rupture of membrane PROM > 37 weeks, while partum women with moderate anemia, as many as 6 respondents (5.0%), experienced premature rupture of membranes PPROM <37 weeks . Chi Square statistical test results with a significant level of 0.05 obtained p value= 0.001 (p value <0.005). There was a correlation between anemia and the incidence of premature rupture of membranes at Regional Public Hospital of Panembahan Senopati Bantul in 2017. Health workers should provide good ANC services in order to prevent anemia that affects the incidence of premature rupture of membranes.

Keywords*: Anemia and premature rupture of membranes*

INTRODUCTION

According to WHO (2012), the incidence of premature rupture of membranes (KPD) ranges from 5-10% of all births. Preterm KPD occurs in 1% of all pregnancies and 70% of KPD cases occur in term pregnancy. As for the case of 30%, KPD is the cause of premature birth.

While the Ministry of Health data (2014) one of the causes of infection is the incidence of premature rupture of membranes that did not receive immediate treatment. Premature rupture of membranes (KPD) includes obstetric complications during pregnancy, complications of death in the mother and fetus. National coverage of complications handling in 2013 was 73.31%.

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Based on data from the Bantul Health Office (2015) the highest visit of pregnant women in Yogyakarta Special Region was around 85.52% in 2014. Of these numbers, AKI in Bantul District which was the cause of one of them was the infection due to premature rupture of membranes which affected mothers and babies.

The most common impact on KPD before 37 weeks' gestation is respiratory distress syndrome (RDS or Respiratory Distress Syndrome), which occurs in 10-40% of newborns. The risk of infection will increase, prematurity, asphyxia, hypoxia, prolapsed umbilical cord, a risk of disability, and pulmonary hypoplasia in the fetus a term (Nugroho, 2010).) While the direct causes that can occur in the mother due to the KPD were complications/complications such as febrile, urinary tract infections, prolonged labor, postpartum hemorrhage and as much as 65% can cause infection.

Desi (2016) anemia is one of the precipitating factors for the occurrence of KPD. In mothers with anemia, hemoglobin levels as iron carriers in the blood are reduced, which results in the

fragility of some areas of the amniotic membrane, resulting in leakage in the area.

The incidence of anemia in pregnant women in DIY Province in 2013 was 18.90% of pregnant women who visited the puskesmas with a Hb level of fewer than 11 grams%. Bantul Regency has the highest rates of anemia in pregnant women in Yogyakarta Province, which is 25.60%. Map of anemia of pregnant women in Bantul Regency in 2013 showed that the number of anemia in pregnant women in Pleret sub-district was still> 50%. Sedayu and Dlingo sub-districts with 40-49% rate of anemia among pregnant women (Dinkes DIY, 2015). While the anemia prevalence in 2015 in Bantul Regency was 19.2%, it was still the second highest in DIY Province after Yogyakarta City was 32.39% (DIY Provincial Health Office, 2015).

The results of the preliminary study conducted at Panembahan Senopati Bantul District Hospital in January 2016 - November 2017 contained 4,656 women giving birth, including 241 mothers who experienced premature rupture of membranes. Based on these data researchers were interested in conducting research on the relationship of anemia with the incidence of premature rupture of membranes in women giving birth at Panembahan Senopati Hospital Bantul.

RESEARCH METHODS

The design used in this study is an analytical survey method. Retrieval of the data using a retrospective time approach. This study used secondary data in the form of medical records from January 2016 to December 2017 with a large sample of 172 mothers giving birth with premature rupture of membranes. The inclusion criteria in this study were maternity mothers with a single pregnancy, back of head position, not hydramnios, and no history of premature rupture of membranes. Exclusion criteria in this study were women with a history of pre-eclampsia and a history of chronic disease. The sampling technique uses total sampling. Statistical test using *Chi-Square*.

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RESULTS AND DISCUSSION

Based on the table above it can be said that anemia in women giving birth in Panembahan Senopati Hospital in Bantul included 155 people with mild anemia (90.1%) and 17 people with moderate anemia (9.9%).

Table 1. Frequency of anemia in Panembahan Senopati Hospital Bantul

No	Anemia clasification	F	%
1	Mild anemia	155	90,1
2	Moderate anemia	17	9,9
	Total	172	100

Source : Secondary Data

Based on the table above it was found that the incidence of premature rupture of membranes in mothers was delivered in Panembahan Senopati Hospital Bantul, including mothers who experienced PPROM premature rupture of membranes <37 weeks as many as 51 people (29,7%) and mothers who experienced premature rupture of membranes PROM> 37 weeks as many as 121 people (70,3%).

Table 2. Frequency premature rupture of membran (PROM) in Panembahan Senopati Hospital Bantul

No	PROM	F	%
1	PPROM < 37 weeks	51	29,7
2	PROM > 37 weeks	121	70,3
	Total	172	100

Source : Secondary Data

Table 3. Relationship of Anemia with Early Rupture in Panembahan Hospital Senopati Bantul

	PPROM		PROM		Total		*P value*
	F	%	F	%	F	%	
Mild Anemia	40	78,4	115	95	155	90,1	
Moderate Anemia	11	21,6	6	5	17	9,9	0.001
Total	51	100	121	100	172	100	

Source : Secondary Data

From the table above shows that mothers who experienced premature rupture of PROM membranes> 37 weeks were as many as 121 people with moderate anemia as many as 6 people (5.0%) and those with mild anemia were 115 people (95.0%), while maternity mothers who experienced PPROM premature rupture of membranes <37 weeks as many as 51 people with moderate anemia 11 (21.6%) and those with mild anemia were 40 (78.4%). Based on the statistical test using Chi Square, the p-value is 0.001, the value of $\leq \alpha$ ($\alpha = 0.05$), then Ha is accepted by Ho, which means that there is an association of anemia with premature rupture of membranes in Panembahan Senopati Bantul Hospital in 2017.

The theory of Manuaba (2010) states that anemia during pregnancy causes pregnant women not to be able to deal with blood loss and make it vulnerable to infection. Anemia also results in fetal hypoxia and premature labor which is harmful to the mother and fetus. The existence of anemia will prevent the fetus from absorbing various nutrients from the mother, and the body's metabolic ability will be reduced so that the growth and development of the fetus in the uterus will be disrupted.

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The study also conducted by Leiwakabessy A (2013) results of this study proved that anemia is the most dominant factor that causes premature rupture of membranes, from the results of the study most of the mothers had premature rupture of membranes and those who experienced premature rupture of the membranes were mostly anemic.

Mochtar's (2013) theory says complications can occur due to premature rupture of membranes and can affect both mother and fetus. In the mother infection can occur, prolonged labor, postpartum hemorrhage. In the fetus or infant can experience prematurity, umbilical cord prolapse, asphyxia, hypoxia, and fetal dehydration syndrome.

Shweta and Vikram's (2014) study has shown that premature rupture of membranes has an impact on the fetus or infant which causes 26% incidence of respiratory distress, 64% prematurity, and 7% low birth weight babies. Supported by research conducted by Sudarto (2015) on premature rupture of membranes, in this study it was proven that mothers who had anemia had a greater risk of premature rupture of membranes than mothers who did not experience anemia.

CONCLUSION

There was a significant relationship between anemia and premature rupture of membranes in women giving birth in Panembahan Senopati Bantul Regional Hospital 2016 - 2017, with the results of chi square test obtained p-value of 0.001 <0.05.

For health workers to collaborate with other health workers to be able to provide services in accordance with integrated ANC standards, for example in providing IEC related to the problem of consumption of good food during pregnancy and must regularly consume blood-added tablets so that the incidence of anemia can be prevented early so as to prevent also the problem of premature rupture of membranes and to improve the quality of midwifery services.

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