

## Factors Related to the Retensio Placenta in Emergency Installation at Hospital Regional Midwifery Madanai Palu

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### Abstract

Based on a survey study of three hospitals in the city of Palu that is Madani hospital, Undata and Anutapura hospitals, it can be concluded that RSD Madani has the highest number of retensio placenta and rest of placenta from 2013-2015. The purpose of this study is to know factors related to incidence of retensio placenta, such as age, parity, history of curettage, spacing pregnancies, the frequency of antenatal care. This type of research is an analytic study with case control approach to the entire population of mothers who recorded in the register book in January - December 2015 as many as 296 people, with a sample of 132 samples consisting of 44 sample cases and 88 control samples without matching. Analysis data was using Chi-Square test with an error rate of 5%, and to see the great risk of retensio placenta used Odds Ratio analysis (OR). Based on the statistical test result are: age (OR = 3.383, P Value = 0.002), parity (OR = 2.700, P Value = 0.039), history of curettage (OR = 3.857, P Value = 0.015), spacing pregnancies (OR = 3.024, P Value = 0.006), frequency of ANC (OR = 1.217, P Value = 0.748). Age, parity, history of curettage, and spacing pregnancies associated with the incidence of retensio placenta and is a risk factor for the incidence of retensio placenta. ANC frequency is not related to the incidence of retensio placenta. For health workers would be able to help reduce the risk factors that can cause pregnancy complications or delivery by giving CIE on delay the age of marriage before age, spacing pregnancies and the ideal number to have a child, and encourage couples of childbearing age to use birth control.

**Keyword:** Age, parity, history of curettage, Distance Pregnancy, Frequency ANC and retensio placenta.

### INTRODUCTION

Labor is the end of pregnancy and the starting point of life outside the womb for the newborn where it is physiological thing (Marmi, 2012). But not all labor proceeds normally without complications, and the consequences of this complication are maternal mortality and infant death.

The maternal mortality rate (MMR) and infant mortality rate (IMR) is one of the indicators in describing the welfare of people in a country. Maternal deaths according to the World Health Organization (WHO) are dying during pregnancy or within a period of 42 days after the end of pregnancy, all-cause related to or aggravated by pregnancy or handling, but not caused by an accident / injury (Depkes RI, 2014) ,

Based on the Indonesian Demographic and Health Survey (IDHS) in 2012 the maternal mortality rate (MMR) increased significantly, from 228 to 359 maternal deaths per 100,000 live births. This condition was higher than neighboring countries in the ASEAN region (Riskesdas, 2014). This condition further away from the target of the Sustainable Development Goals (SDGs) 2030 which is 70 per 100,000 live births (Depkes RI, 2015).

The facts show that in developing countries postpartum hemorrhage is the leading cause of maternal death. According to WHO, the world maternal mortality rate due to post partum bleeding is 25%, whereas according to Ministry of Health Republic Indonesia maternal mortality rate due to post partum bleeding in Indonesia reaches 28%. Postpartum bleeding can be caused by uterine atony (about 90%), laceration of the birth canal (about 7%), retensio placenta and coagulation system abnormalities (about 3%) (Rahyani, 2013 in Darmayanti, 2013).

Retensio placenta is caused by several factors, namely maternal factors and uterine factors. Maternal factors include elderly gravida, uterine factors including former caesarea sectio, former curettage, history of retensio of placenta in previous labor, history of endometritis, placental retention of placenta placental multiplication and placental implantation such as placenta adhesiva, placenta accreta, placenta increta And placenta percreta. It can also be caused by the rush of delivery assistance performing birth help, grandemultipara, former intra uterine infection (Manuaba, 2010).

The distance of pregnancy that is too close to previous pregnancy can also cause retention of the placenta this is because the condition of the uterus and maternal health has not recovered so well that tends to postpartum hemorrhage. In addition, consecutive labor within a short time span causes the uterus to become fibrotic, thus reducing the contraction and uterine retraction. Such conditions can result in the occurrence of retensio placenta (Wijono 2007 in Solichah, 2012).

Pregnant women who are not matched with established antenatal care standards are also at risk for obstetric complications. This happens because of maternal pregnancy, fetal development and emergency emergencies that may occur can not be monitored regularly. So the possibility for the occurrence of postpartum complications can not be prevented and minimized as early as possible. If prenatal care is performed in an orderly manner, and performed by professional personnel, complications during pregnancy can be detected, so complications arising during labor such as postpartum hemorrhage can be estimated (Wijono, 2008 in Solichah, 2012).

Having children at the age under 20 years of age or over 35 years is a risk factor for postpartum hemorrhage that one reason is retensio placenta, this is caused by the age under 20 years of reproductive function of a woman not yet fully developed, while at the age above 35 years a woman's reproductive function has been decreased compared to the normal reproductive function so that the possibility of the occurrence of postpartum complications, especially bleeding will be more apt to occur (Rahmawati, 2011).

Retention of the placenta is a serious complication of labor because in a short time if the placenta is released some mothers may experience postpartum bleeding that can cause shock, anemia, and will weaken the mother's condition, and predisposing to the occurrence of infection, if the blood loss is not immediately stopped, The final result will of course lead to death (Oxorn and Forte, 2010).

Based on data from Palu City Health Department maternal deaths in 2014 there were 8 people, with the cause of death consists of hypertension in pregnancy 2 people (25%), other 6 (75%). Data 2015 maternal deaths 22 people with the cause of death consists of Bleeding 8 (36.36%), hypertension in pregnancy 2 (9.09%).

## RESEARCH METHODS

A case-control study is a study that studies risk factors using a retrospective approach, meaning that the study begins by identifying the affected group of disease or certain effects (cases) and the group without effects (control), then identifying the risk factors of the past, so as to explain Why the case is affected, while the control is not affected (Riyanto, 2011).

Samples in this research are 2 case samples and control samples with ratio of 1: 2 without matching, it means that in the selection of control samples do not pay attention to the same characteristics with cases in all variables that act as risk factors except the variables studied.

The sample in this research there are 2 of the sample case and control samples with a ratio of 1: 2 without matching, that is to say in the selection of the control sample did not notice the same characteristics as in the case of all the variables that play a role as a risk factor unless the variables studied. In the sample of cases that mothers who have retensio placenta and rest / retensio placenta as many as 44 people and no samples were taken for all of the sample, whereas the control samples are mothers who do not experience retensio placenta or rest / retensio placenta as many as 88 people with The sampling technique is simple random sampling. Simple random sampling (simple random design) is a sampling of members of the population using random without regard to strata (levels) in members of the population by using a lottery. So that the overall sample size in this study there were 132 samples. The bivariate analysis was conducted to determine the relationship between independent variables such as age, parity, spacing of pregnancy, a history of curettage, and the frequency of antenatal / antenatal care with a dependent variable that the incidence of retensio placenta. Analysis can be performed using Chi-Square test with an error rate of 5% ( $\alpha = 0.05$ ) and 95% confidence level.

## Results

### Subject Characteristics

Characteristics of the subjects in this study consists of education, employment, labor history. Characteristics of maternal education were categorized into three groups: elementary-junior high school, and college. Maternal job characteristics grouped into four categories: IRT (housewife), Students, honorary, and civil servants. Labor history maternal characteristics are grouped into two categories helped midwife and healer. Distribution of the characteristics of the subject under study can be seen in the following table.

Tabel 4.1 Mother Maternity characteristics in emergency obstetrics Madani RSD 2015

<b>Education</b>	<b>Frequency</b>	<b>Percentage</b>
Elementary- Primary High School	63	47,7 %
Senior High School	49	37.1 %
University	20	15,2%
<b>Work</b>	<b>Frequency</b>	<b>Percentage</b>
No	109	82.6 %
Student	3	2.3 %
Honorer	8	6.1 %
Civil	12	9.1 %
<b>Labour history</b>	<b>Frequency</b>	<b>Percentage</b>
Midwife	118	89,4 %
Assistance Labour	14	10,6 %

### 1. Univariate Analysis

Univariate analysis used to determine the frequency distribution of independent variables (free), such as age, parity, spacing of pregnancy, a history of the ANC and curettage and frequency dependent variable that the incidence of retensio placenta. From processing obtained the following results:

a. Retensio Placenta

The measurement results of the retensio placenta are classified into two categories, retensio placenta and retensio placenta. The following table provides an overview of the distribution of frequency of occurrence of retensio placenta in the ER Obstetrics RSD Madani is as follows:

Tabel 4.2 Frequency distribution of retensio placenta incidence in the ER Obstetrics RSD Madani 2015

Retensio Placenta	Frekuensi	Presentase
Retensio plasenta	44	33,3 %
Not retensio plasenta	88	66,7 %
Total	132	100 %

b. Age

The results of measurements of the lifetime grouped into two categories: low risk (20-35 years) and high risk (<20 years and > 35 years). The following table provides an overview of frequency distribution by age of women giving birth in the ER Obstetrics RSD Madani is as follows:

Tabel 4.3 Frequency Distribution Based on ER Age Mother Maternity Obstetrics RSD Madani 2015

Age	Frequency	Percentage
Low risk (20-35 tahun)	71	53,8 %
High risk (<20 & >35 tahun)	61	46,2 %
Total	132	100 %

c. Parity

The measurement results of the parity grouped into two categories: low risk (primiparas = 1 child) and high risk (multipara = 2-5 children and grandmultipara => 5 children). The following table provides an overview Based on the frequency distribution of maternal parity in the ER Obstetrics RSD Madani is as follows:

Tabel 4.4 Frequency Distribution Based on Parity in the ER Mother Maternity Obstetrics RSD Madani 2015

Parity	Frequency	Percentage
Low Risk (primipara = 1 child)	41	31,1%
High Risk (multipara = 2-5 children & grandmultipara = >5 children)	91	68,9%
Total	132	100 %

d. Curettage History

The measurement results for history of curettage grouped into two categories: low risk (0 = never) and high risk ( $\geq 1$  next time). The following table provides an overview of frequency distribution by curettage history birth mothers in the ER Obstetrics RSD Madani is as follows:

Tabel 4.5 Frequency Distribution Based curettage history in the ER Mother Maternity Obstetrics RSD Madani 2015

Curettage history	Frequency	Percentage
Low Risk (0 = never)	114	86,4 %
High Risk ( $\geq 1$ time)	18	13,6 %
Total	132	100 %

e. Spacing of Pregnancy

The results of measurements of the distance of pregnancy are classified into two categories: low risk (0 years and > 2 years) and high risk ( $\leq 2$  and  $\geq 10$  years). The following table provides an overview of frequency distribution by spacing of pregnancies in emergency obstetrics maternity RSD Madani is as follows:

Tabel 4.6 Frequency Distribution Based Spacing Of Pregnancy Mother Maternity in the ER Obstetrics RSD Madani 2015

Spacing Of Pregnancy	Frequency	Percentage
Low Risk (0 tahun dan >2 tahun)	83	62,9%
High Risk ( $\leq 2$ dan $\geq 10$ tahun )	49	37,1%
Total	132	100 %

f. Frequency of Antenatal Care (ANC)

Frequency of ANC to be grouped into two categories: low risk ( $\geq 4$  times) and high risk (<4 times). The following table provides an overview of frequency distribution based on the frequency of ANC women giving birth in the ER Obstetrics RSD Madani is as follows:

Tabel 4.7 Frequency of ANC Distribution Based on ER ANC Mother Maternity Obstetrics RSD Madani 2015

Frequency Of ANC	Frequency	Percentage
Low Risk ( $\geq 4$ kali)	85	64,4 %
High Risk ( $< 4$ kali)	47	35,6 %
Total	132	100 %

2. Bivariate Analysis

Bivariate analysis is used to determine the relationship between independent variables such as age, parity, spacing of pregnancy, a history of the ANC with curettage and frequency of retensio placenta. Research conducted bivariate analysis using *Chi Square correlation* test with a confidence level of 95% and a significance value of 0.05.

The results of the data analysis presented in tabular form a cross (crosstabs) as follows.

a. Age relationship with Retensio Placenta Occurence

From the results of statistical tests on the relationship of age with the incidence of retensio placenta in emergency obstetric RSD Madani, then the relationship between these two variables can be seen in the following table:

Tabel 4.8 Age relationship with Retensio Placenta Occurence in the ER Obstetrics RSD Madani 2015

Mother Age	Retensio Plasenta				Total	P value	(OR) CI=95%
	Not Retensio Plasenta		Retensio Plasenta				
	F	%	F	%			
Low Risk	56	78,9	15	21,1	71	0,002	3,383 (1,583-7,233)
High Risk	32	52,5	29	47,5	61		
Total	88	66,7	44	33,3	132		

Based on the statistical test Chi Square with an error rate of 5% was obtained P Value = 0.002 (0.002 < 0.05) and the value of ODSS Ratio (OR) = 3.383 confidence interval (CI) 95% from 1.583 to 7.233 can thus be concluded that  $H_0$  refused and  $H_a$  received by interpretation means that there is a significant correlation between age and the incidence of retensio placenta. Based on the results of the analysis can be summed OR mothers with high-risk age 3.3 times greater risk of experiencing in retensio placenta compared to mothers who have low-risk age.

b. Parity relationship with retensio placenta occurrence

Based on the results of statistical test to parity relationship with the incidence of retensio placenta in emergency obstetric RSD Madani, then the relationship between these two variables can be seen in the following table:

Tabel 4.9 Parity relationship with retensio placenta in the ER Obstetrics RSD Madani 2015

Parity	Retensio Plasenta				Total	P value	(OR) CI=95%
	Not Retensio Plasenta		Retensio Plasenta				
	F	%	F	%			
Low Risk	33	80,5	8	19,5	41	0,039	2,700 (1,121 – 6,505)
High Risk	55	60,4	36	39,6	91		
Total	88	66,7	44	33,3	132		

Based on the statistical test Chi Square with an error rate of 5% was obtained P Value = 0.039 (0.039 < 0.05) and the value of ODSS Ratio (OR) = 2.700 confidence interval (CI) 95% from 1.121 to 6.505 can be concluded that  $H_0$  is rejected and  $H_a$  accepted interpretation means there is a significant relationship between parity with the incidence of retensio placenta. Based on the analysis concluded OR mothers who have high risk parity 2.7 times greater risk of experiencing retensio placenta compared to mothers who have low-risk parity.

c. Relationship History curettage with Retensio placenta

Based on the results of statistical test to curettage history relationship with the incidence of retensio placenta in emergency obstetric RSD Madani, then the relationship between these two variables can be seen in the following table:

Tabel 4.10 Relationship History of curettage with retensio placenta in the ER Obstetrics RSD Madani 2015

Curettage history	Retensio Plasenta				Total	P Value	(OR) CI=95%
	Not Retensio Plasenta		Retensio Plasenta				
	F	%	F	%			
Low Risk	81	71,1	33	28,9	114	0.015	3.857 (1,376-10,809)
High Risk	7	38,9	11	61,1	18		
Total	88	66,7	44	33,3	132		

Based on the statistical test Chi Square with an error rate of 5% was obtained P Value = 0.015 (0.015 < 0.05) and the value of ODSS Ratio (OR) = 3.857 confidence interval (CI) 95%, ie 1.376 to 10.809, it can be concluded that Ho refused and ha received by interpretation means there is a significant relationship between history of curettage with the incidence of retensio placenta. Based on the results of the analysis can be summed OR mothers who have a history of curettage risk 3.8 times more likely to have retensio placenta than women with no history of curettage.

d. Relationship Spacing of Pregnancy With Retensio Placenta

Based on the results of statistical test the relationship spacing of pregnancy with the incidence of retensio placenta in emergency obstetric RSD Madani, then the relationship between these two variables can be seen in the following table:

Tabel 4.11 Relationship Spacing Of Pregnancy With Incidence of Retensio Placenta at Emergency Instalation RSD Madani

Spacing Of Pregnancy	Incidence Of Retensio Plasenta				Total	P Value	(OR) CI=95%
	Not Retensio Plasenta		Retensio Plasenta				
	F	%	F	%			
Low Risk	63	75,9	20	24,1	83	0.006	3.024 (1.424 -6.420)
High Risk	25	51	24	49	49		
Total	88	66,7	44	33,3	132		

Based on the results statistically using Chi Square test with an error rate of 5% was obtained P Value = 0.006 (0.006 < 0.05) and the value of ODSS Ratio (OR) of 3.0 with a confidence interval (CI) 95% that can be inferred from 1.424 to 6.420 Ho rejected and Ha accepted by interpretation means there is a significant correlation between the spacing of pregnancy with the incidence of retensio placenta. Based on the results of the analysis can be summed OR mothers with high-risk pregnancies have a distance 3.0 times greater risk of experiencing retensio placenta compared to mothers who have low-risk spacing of pregnancy.

e. Relationship Frequency of ANC With Retensio placenta

Based on the results of statistical test to Relationship Frequency of ANC With incidence of Retensio placenta in emergency obstetric RSD Madani, then the relationship between these two variables can be seen in the following table:

Tabel 4.12 The Relationship of frequency of ANC with incidence of retensio placenta in the ER Obstetrics RSD Madani 2015

Frequency Of ANC	Incidence Of Retensio Plasenta				Total	P Value	(OR) CI=95%
	Not Retensio Plasenta		Retensio Plasenta				
	F	%	F	%			
Low Risk	58	68,2	27	31,8	85	0.748	1.217 (0,575-2,577)
High Risk	30	63,8	17	36,2	47		
Total	88	66,7	44	33,3	132		

Based on the results statistically using Chi Square test with an error rate of 5% was obtained P Value = 0.748 (0.748 > 0.05) and the value of ODSS Ratio (OR) = 1.217 confidence interval (CI) 95% that can be inferred from 0.575 to 2.577 Ha rejected and Ho is accepted by interpretation means there is no significant relationship between the frequency of ANC with retensio placenta. Based on the results of the analysis can be summed frequency of ANC had no effect on the incidence of retensio placenta, the frequency of the ANC is not a risk factor for retensio placenta.

## DISCUSSION

### 1. The relationship of age to the incidence of retensio placenta

Results of the research relationship with the incidence of retensio placenta age based on the statistical test Chi Square can be concluded there is a significant relationship between age and the incidence of retensio placenta. Based on the analysis ODSS Ratio mothers with high-risk age 3.3 times greater risk of experiencing retensio placenta, and mothers with high-risk age have risk factors for retensio placenta happen.

Based on research results showed that the prevalence of retensio placenta occurs more frequently in women who have aged at high risk and age associated with the incidence of retensio placenta, and be a risk factor, it is because of age < 20 years of their reproductive organs have not developed and functioning optimal for the process of pregnancy and childbirth, and at the age of > 35 years of reproductive organs has been decreased, both of which will have an effect on uterine contractions that are not optimal, causing the placenta can not be separated from the implantation or has been freed, but could not release because there is no uterus contractions and the cervix is closed.

In addition to the age of retensio placenta can also be caused due to an error at the time of delivery assistance in the active management of stage 3 as the delay in injecting oxytocin, or massage the fundus when the placenta has not been released, so that would result in uterine contractions less than optimal, it can be seen from the results of research in which there is 14 maternal history of birth is assisted by a delivery assistance with a high risk of reproductive age.

### 2. The relationship of parity with the incidence of retensio placenta

Based on the statistical test Chi Square can be concluded there is a significant relationship between parity with the incidence of retensio placenta. Based on the analysis ODSS parity ratio mothers who have high risk 2.7 times greater risk of experiencing retensio placenta, so that it can be concluded mothers who have high risk parity has occurred risk factors for retensio placenta.

Based on research results showed that the prevalence of retensio placenta is more common in mothers who have parity at high risk, as well as the parity associated with the incidence of retensio placenta and be risk factors, this was due to have been setbacks in the mother's uterine, which already contained cuts scarring of the uterine wall as a result of previous pregnancies, so that in the event of pregnancy the placenta attached to the back and the scar then be attached to the placenta deeper to meet the nutritional needs of the fetus. Besides the muscles of the uterine is not elastic anymore or had been weakened too often stretched due to pregnancy, which can cause the muscles can not contract properly which causes the placenta can not be separated from the implantation or it is off but could not release because there is no uterus contractions cause the placenta trapped inside.

### 3. The relationship curettage history with the incidence of retensio placenta

The research result of Chi Square test was concluded there is a significant relationship between history of curettage with the incidence of retensio placenta. Based on the analysis ODSS Ratio mothers who have a history of curettage 3.8 times greater risk of experiencing retensio placenta, this may mean that women who have a history of curettage have risk factors for retensio placenta.

Based on the results obtained by the factors that lead to retensio placenta in women who have a history of curettage because it is influenced by the implantation of the placenta is too strong in the uterine wall, it is caused due to an injury scars of curettage cause the placenta will implant deeper to meet the nutritional needs of the fetus when a pregnancy occurs, and this is what causes the occurrence of retensio placenta because the placenta will be difficult regardless of its implantation site.

### 4. Relationship spacing of pregnancies with retensio placenta incidence

Based on the results statistically using Chi Square test can be concluded there is a significant correlation between the spacing of pregnancy with retensio placenta. Based on the analysis ODSS Ratio mothers with high-risk pregnancies have a distance 3.0 times greater risk of experiencing retensio placenta, this may imply that mothers with high-risk in spacing of pregnancies have risk factors for retensio placenta.

Based on the results of the study that the prevalence of retensio placenta is more common in mothers who have a distance of a high risk pregnancy and spacing of pregnancy associated with the incidence of retensio placenta, and be a risk factor, it is because the mother with spacing of births too close to give impact for reproduction recovered, the reproduction system has been forced to work, this system will not be optimal work as inadequate uterine contractions. In addition the distance is too far labor can caused uterine muscles become stiff to function and not be able to give optimal contraction which will be one of the risk factors for the retensio placenta.

### 5. Relationship Frequency Of ANC with the incidence of retensio placenta

Chi Square statistical test conclude there is no significant relationship between the frequency of ANC with retensio placenta. Based on the analysis ODSS Ratio can be concluded that the frequency of ANC had no effect on the occurrence of retensio placenta, the frequency of the ANC is not a risk factor for retensio placenta.

Based on the results of research and statistical tests that the frequency of the ANC at pregnant women rather than as a direct cause of the retensio placenta, but there are factors that cause direct from his own mother,

such as age, parity, history of pregnancy and history of childbirth, so the frequency of ANC either low risk and high risk are equally likely to have retensio placenta when pregnant women already have risk factors for the retensio placenta. ANC examination is useful for monitoring the health of mothers and babies during pregnancy and reduce or minimize risks that may occur during delivery.

## CONCLUSION

Based on the results of research on the incidence of maternal placental retention in the ER Obstetrics Madani RSD can be summarized as follows:

1. There is a relationship between mother age with the incidence retensio placenta, mothers who have high risk age ( $< 20$  and  $> 35$  years) were 3.3 times greater risk of experiencing retensio placenta compared to mothers who have low-risk age (20-35 years).
2. There is relationship between maternal parity with the incidence of retensio placenta, mothers who have high risk parity ( $\geq 3$  children) at risk 2.7 times more likely to have retensio placenta compared to mothers who have low risk parity ( $< 3$  children).
3. There is a relationship between history of curettage with the incidence of retensio placenta, mothers who have a history of curettage risk 3.8 times more likely to have retensio placenta than women with no history of curettage.
4. There is a relationship between spacing of pregnancy with the incidence of retensio placenta, mothers who have high risk spacing of pregnancy ( $\leq 2$  years and  $\geq 10$  years) 3.0 times greater risk of experiencing retensio placenta compared to mothers who have low-risk pregnancies distance ( $> 2$  years).
5. There is a relationship between the frequency of ANC with the incidence of retensio placenta, frequency of ANC had no effect on the incidence of retensio placenta.

## SUGGESTION

For RSD Madani and health workers are supposed to help reduce the risk factors that can cause pregnancy complications atupun delivery by giving CIE on delay before the age of marriage age, spacing for pregnancies and the ideal number to have a child, and encourage couples of childbearing age to use birth control.

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