

Factors Related To The Incidence Of Preterm Delivery In The Room Maternity Hospitals dr. H. Moch. Ansari Saleh Banjarmasin

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ABSTRACT

Background: The prematurity is one of cause of death the baby in Indonesia. It is estimated that the preterm labor contribution to the infant mortality rate reached 60-80%. Incidence the preterm labor for the past two years at RSUD Dr. H. Moch. Ansari Saleh Banjarmasin continues to rise, 2014 is 129 cases and 2015 increased to 223.

Purpose: Analyze factors that deals with genesis preterm labor.

Methods: Using survey analytic with the approach case control. Population all maternity mother. The sample of the cases 233 with a total of sampling, sample control 466 with systematics random sampling. Analysis data is bivariat by test Chi Square ($\alpha=0.005$) and Odds Ratio.

Results: Analysis bivariat test chi square show there was a correlation age mother ($p=0,001$) (or= 1,199), paritas ($p= 0,000$) (OR= 1,880), the distance pregnancy ($p=0,001$) (OR=1,179), gamelli ($p=0,000$) (OR=0,034) with genesis preterm labor.

Conclusion: There was a correlation age mother, paritas, the distance pregnancy, gamelli in the genesis preterm labor. Age mother risk (<20 and >35) years had a chance 1,199 times greater to bore in the gestastional age preterm, mother with of paritas risk (1 and >3) had a chance 1,880 times greater to bore in the gestastional age preterm , mother with the distance pregnancy risk (<2 years) had a chance 1,179 time greater to bore in the gestastional agre preterm and mother with gamelli had a chance 0,034 time greater to bore in the gestastional age preterm.

Keywords: Preterm Labor, Mother Age, Paritas, The Distance Pregnancy, Gamelli.

INTRODUCTION

Prematuritas is one of the causes of infant mortality in Indonesia. Figures for the incidence of preterm labor in General is about 6-10%, it is estimated that the contribution of preterm labor Against Infant Mortality (AKB) could reach 60-80% (Mada, 2012).

Preterm labor is labor that occurs in 22-37 weeks gestational age (Saif,2008). Factors that affect the occurrence of labor pretem according to Krisnadi (2009), in terms of the age of the mother, including maternal parity, pregnancy, trauma to the mother and premature history before. Fetal factors, such as the twin pregnancy (Gamelli), fetal death in womb/IUFD and congenital birth. Whereas in terms of behavioural factors, namely smoking and drinking alcohol.

Regional General Hospital Dr. H. Moch. Ansari Saleh Banjarmasin is type B Hospitals belonging to the Government of South Kalimantan province which is located in the city of Banjarmasin. The hospital is located on jalan Brigjen h. Hasan Basri No.1 Banjarmasin as the first reference the city of Banjarmasin and surrounding area. Based on the preliminary studies that have been done in the room medical record Regional General Hospital Dr. h. Moch. Ansari saleh Banjarmasin on 01 February 2016, of 5951 labor in 2014 there are 129 people (2.2%) who are experiencing preterm labor cases and in 2015 there are as many as 233 people (4.9%) are experiencing preterm labor case from 4776 labor. Recorded as many as 8 Genesis maternal

mortality by the year 2015 and 2 of them are experiencing preterm labor.

METHODS

The method used is the method of analytic survey. The population in this research is the whole birthing mothers in the year 2015 in the room Maternity Hospital General Regional Dr. H. Moch. Ansari saleh Banjarmasin as much 4776 people use case approach in comparison with control 1:2. In the case of sampling, namely with the total sampling, while the sample to control using systematic random sampling. The number of samples for each group of cases as much as 233 people and groups control as much as 466 people, so that the number of samples was entirely 699 people.

RESULTS

1. Univariate Analysis

a. Age Of Mother

Table 1 Preterm Labor Incident frequency distribution based on the Age of the mother at the Regional General Hospital Dr. h. Moch. Ansari Saleh Banjarmasin.

Age Of Mother (years)	Total (people)	Percentage (%)
<20 dan >35	130	55,8
20-35	103	44,2
Total	233	100,0

Distribution frequency of preterm labor and birth incidence based on maternal age < 20 and > 35 years as many as 130 people (55.8%).

Table 2 The distribution of the frequency of Occurrence is not Labor Preterm based on the age of the mother at the Regional General Hospital Dr. h. Moch. Ansari Saleh Banjarmasin.

Age Of Mother (years)	Total (people)	Percentage (%)
<20 dan >35	239	51,3
20-35	227	48,7
Total	466	100,0

The distribution of the frequency of occurrence is not labor preterm delivery upon maternal age < 20 and > 35 years as many as 239 people (51.3%).

b. Parity

Table 3 Preterm Labor Incident frequency distribution based on Parity in the regional General Hospital Dr. H. Moch. Ansari Saleh Banjarmasin.

Parity	Total (orang)	Percentage (%)
1 and > 3	157	67,4
2-3	76	32,6
Total	233	100,0

Preterm labor incident frequency distribution based on parity of the first new mothers and more than 3 times the bore as many as 157 people (67.4%).

Tabel 4 The distribution of Labor Isn't based on frequency of Occurrence in the General Parity Preterm Hospital Regional Dr. H. Moch. Ansari Saleh In Banjarmasin.

Parity	Total (people)	Percentage (%)
1 and >3	244	52,4
2-3	222	47,6
Total	466	100,0

The distribution of the frequency of occurrence is not labor preterm maternal parity based on the first and more than 3 times the bore as much as 244 people (52.4%).

c. The Distance Of The Pregnancy

Table 5 Preterm Labor Incident frequency distribution based on the distance of the Pregnancy in the regional General Hospital Dr. H. Moch. Ansari Saleh Banjarmasin.

The Distance Of The Pregnancy	Total (people)	Percentage (%)
<2 years	133	57,1
>2 years	100	42,9
Total	233	100,0

Preterm labor incident frequency distribution based on the distance a pregnancy as many as 2 years 133 < people (57.1%).

Table 6 The distribution of the frequency of Occurrence is not Labor Preterm Pregnancy based on distance in the regional General Hospital Dr. H Moch. Ansari Saleh Banjarmasin.

The Distance Of The Pregnancy	Total (people)	Percentage (%)
<2 years	247	53,0
>2 years	219	47,0
Jumlah	466	100,0

The distribution of the frequency of occurrence is not labor preterm pregnancy based on distance of 2 years as much as 247 < people (53.0%).

d. Twin Pregnancy

Table 7 The distribution of the frequency of Occurrence of Twin Pregnancy Preterm Labor based on Regional General Hospital Dr. H. Moch. Ansari Saleh Banjarmasin.

Fetus	Total (people)	Percentage (%)
Single	196	84,1
Twins	37	15,9
Total	233	100,0

Preterm labor incident frequency distribution based on single mothers who gave birth to the fetus as much as 196 people (84.1%).

Table 8 The distribution of the frequency of Occurrence is not Labor Preterm Twin Pregnancies based on Regional General Hospital Dr. H. Moch. Ansari Saleh Banjarmasin.

Fetus	Total (people)	Percentage (%)
Single	463	99,4
Twins	3	0,6
Total	466	100,0

The distribution of the frequency of occurrence is not labor preterm based on single mothers who gave birth to the fetus as much as 463 persons (99.4%).

2. Bivariat Analysis

a. The relationship of maternal Age with incidence of Preterm Labor

Table 9 Analysis of the relationship of Case and control based on the age of the mother with the incidence of Preterm Delivery at the Regional General Hospital Dr. h. Moch. Ansari Saleh Banjarmasin.

Age Of Mother	Case (Preterm Labor)		Control (Preterm Labor Is Not)		Total	
	F	%	f	%	F	%
At risk	130	18,6%	239	34,2%	369	52,8%
Not At Risk	103	14,7%	227	32,5%	330	47,2%
Total	233	33,3%	466	66,7%	699	100%
Chi Square	P = 0,001					
	OR=1,199 (0,874-					
Odds Ratio	1,644)					

Chi-Square test result value 0.001 p then $p = \alpha = 0.05 <$, so H_0 denied it means there is a connection with the mother's age the incidence of preterm birth. Of the value of the OR (Odds Ratio) obtained amounted to 1.199 and it can be said that the age of the mother at risk is a risk factor for the onset of preterm labor.

b. The relationship of parity with Preterm Labor events

Table 10 Analysis of the relationship of Case and control based on parity with the incidence of Preterm Delivery at the Regional General Hospital Dr. H Moch. Ansari Saleh Banjarmasin.

Parity	Case (Preterm Labor)		Control (Preterm Labor Is Not)		Total	
	F	%	f	%	F	%
At risk	157	22,5%	244	34,9%	408	57,4%
Not At Risk	76	10,8%	222	31,8%	281	42,6%
Total	233	33,3%	466	66,7%	699	100%
Chi Square	P = 0,000					
Odds Ratio	OR=1,880 (1,353-2,611)					

then $p = 0.05$, $\alpha <$ so H_0 denied it means there

is a relationship of parity with the incidence of preterm delivery. Of the value of the OR (Odds Ratio) obtained of 1.880 and it can be said that the parity of the mother who gave birth to the first and more than 3 times (1 and 3 >) is the occurrence of preterm birth risk factors.

c. Distance relationship of pregnancy with Preterm Labor

Table 11 Analysis of the relationship of the cases and controls based on the distance of the Pregnancy with Preterm Labor at the Regional General Hospital Dr. H. Moch. Ansari Saleh Banjarmasin.

The Distance Of The Pregnancy	Case (Preterm Labor)		Control (Preterm Labor Is Not)		Total	
	F	%	f	%	F	%
At risk	133	19,0%	247	35,4%	380	54,4%
Not At Risk	100	14,3%	219	31,3%	319	45,6%
Total	233	33,3%	466	66,7%	699	100%
Chi Square	P = 0,001					
Odds Ratio	OR=1,179 (0,859-1,619)					

Chi-Square test result value 0.001 p then $p = \alpha = 0.05 <$, so H_0 denied it means there's a distance relationship with pregnancy preterm labor. Of the value of the OR (Odds Ratio) obtained amounted to 1.179 and it can be said that the pregnancy is at risk (< 2 years) is the occurrence of preterm birth risk factors.

d. Twin Pregnancy relationship with incidence of Preterm Labor

Table 12 Analysis of the relationship of Case and control based on Pregnancy Preterm Labor with Twins in Daerah General Hospital Regional General Hospital Dr. H. Moch. Ansari Saleh Banjarmasin.

Twin Pregnancy	Case (Preterm Labor)		Control (Preterm Labor Is Not)		Total	
	F	%	f	%	F	%
	Single	196	28,0%	463	66,3%	659
Twins	37	5,3%	3	40%	40	5,7%
Total	233	33,3%	466	66,7%	699	100%
<i>Chi Square</i>	<i>P = 0,000</i>					
<i>Odds Ratio</i>	<i>OR=0,034 (0,010-0,113)</i>					

Chi-Square test result value = 0.000 p then $p = 0.05$, $\alpha <$ so H_0 denied it means there is a connection of twin pregnancies with preterm labor. Of the value of the OR (Odds Ratio) obtained of 0.034 and it can be said that the twin pregnancy is a risk factor for the onset of preterm labor.

DISCUSSION

1. Preterm Labor

Preterm birth is the process multifaktorial abnormalities. The combination of circumstances of obstetrics, sosiodemografi, and medical factors influence the occurrence of premature labor. The causes of premature birth i.e. iatrogenic (20%), infection (30%), while preterm premature ruptured amniotic (20-25%) and spontaneous preterm birth (20-25%) (Norwitz & Schorge, 2006).

According to Chapman (2006), 6.7% United Kingdom is preterm birth i.e. under the age of 37 weeks gestation and less than a

quarter of preterm births occur before 32 weeks of gestation age. The prevalence of births in Indonesia according to the last data 18.5%, preterm birth contributes to mortality in infants up to 65-75% (Botefilia, 2010).

In the USA, risk factors for preterm delivery against divided by research-based evidence, i.e. short delivery distances (< 18 months) and long (> 60 months), a history of preterm delivery before, race/ethnic, age of the mother (to the extreme < 16 years and > 40 years), maternal malnutrition and chronic stress, infection, low socioeconomic, smokers (including passive smokers/drinkers of alcohol/cocaine users), multiple gestation, placenta factor (Krisnadi, 2009).

The impact of preterm labor not only can result in death, but also causes perinatal disorders of short term and long term on premature babies. Short term disorder that often happens is Respiratory Distress Syndrome (RDS), intra haemorrhage, Necrotizing periventrikuler Entero/Cilitis (NEC), bronko displasi-pulmonar, sepsis and patent ducts arteriosus. As for long term disorder is often in the form of mental retardation, abnormalities can also occur neuro behavioral dysfunction and less good schools presentation (Saifuddin, 2008).

2. Age Of Mother

One of the factors predisposing the onset of preterm labor is the age of the mother. Statistically, a young mother that is aged less than 18 years old or who are over 35 years of

proven to have premature birth incidence is higher. On the birth of his second child, mothers aged between 15 and 19 years of age three times higher risk of experiencing the birth of a very premature baby born and die than mothers who aged 20-29 years (Holmes, 2011).

According to Astolfi and Zonta (2002), getting a 64% increase in the incidence of preterm delivery in women Italy population aged 35 years or older, especially at the first pregnancy (Krisnadi, 2009).

These results are consistent with research conducted by Masyita (2010) which shows that age mother < 20 years and > 35 years can increase the incidence of preterm birth 2.606 times greater. According to the results of research conducted by Gunawan (2010) which suggests that the age of the mother when giving birth is a risk factor for preterm birth with a value OR of 4.636.

Based on the results of this study and the results of previous studies, researchers can infer that women who become pregnant at the age of reproduction, i.e. aged between 20-35 years had a risk of childbirth complications including small risks preterm labor.

3. Parity

Parity 1 a parity and more than 3 have maternal mortality rates are higher and the parity 2-3 the most secure parity is reviewed from a maternal death (Wiknjastro, 2006). Women who have given birth to more than 3 times have had 4 times greater risk of experiencing premature labor when compared

to women who are less than 3 paritasnya (Agustinafi, 2005).

Some of the libraries mentioned the premature labor was more common among women multipara due to scarring of the uterus due to pregnancy and childbirth before (returning). This third scarring does not adekuatnya the blood supply to the placenta so that the placenta become thinner and includes the uterus. The placenta is attached to this adekuat not lead to isoferitin which is a protein produced by cells of the limfosils T to inhibit uterine reactivity and protecting pregnancy produced little fruit, so by the circumstances of the case the risk to experiencing premature labor become larger (Raymond, 2006).

Women who once gave birth to more than 1 time or who have high risk parity include higher experience premature birth due to decreased function of reproductive tools and increase the risk of occurrence of antepartum bleeding also can cause the termination of early pregnancy (Saifuddin, 2008).

4. The Distance Of The Pregnancy

According to Bobak et.al (2005) who say that short birth spacing, i.e. less than 2 years will cause a mother hasn't enough time to restore the condition of her body after childbirth before. The mother should still be breastfeeding and giving attention to the child who was born earlier, so that the condition of these weak mother would have an impact on the health of the fetus and birth weight.

The distance of the pregnancy risk occurrence of labor donated close prematurely. Zhu et.al (1999) examined the birth interval for 7 years and got that mother pregnant with interval of 6-17 months from her last delivery increases the risk of prematuritas and low birth weight babies as much as 1.4 times when compared with the 18-23 intervals the Moon (Krisnadi 2009).

According to Portman, Genesis prematuritas of 7.8% at intervals over 23 months which will be increased to 18% in the case of intervals of less than 12 months (Sularyo 2005), whereas in the review of the data is done Dr. Sorina Grisar-Granovsky, Director of meternal-fetal medicine at Shaare Zedek Medical Center of and his team against the 440,838 babies born of mothers who had previously given birth to note that the risk of babies born prematurely increased to 23% by mothers who are already pregnant again 6 months post-birth (Anna, 2009).

In addition, the study also fits with research results Irmawati (2010), i.e. the distance which a birth mother less than 24 months at risk of 2.56 times to give birth preterm compared with mothers who distance the birth of more than 24 months.

5. Twin Pregnancy

Twin pregnancies or pregnancies with fetal double amount is one of the causes of premature birth, where the greater number of the younger the gestational age of the fetus

while in labor. Approximately 50% of twins born in a premature State (Holmes, 2011).

An average of two twin pregnancies reaching only 35 weeks gestational age, about 60% are experiencing preterm labor at 32 weeks gestation until 37 weeks < and 12% labor before 32 weeks of gestation. On triplet pregnancies (twins 3) average pregnancy will only reach age 32 weeks, quadriplet (4 twins) reached only 29 weeks and quintuplet (twins 5) 100% will be born prematurely at the age of 29 weeks of pregnancy if no < performed intervention either. The number of twin pregnancy induced premature labor will reach about 12% of the premature birth incidence (Krisnadi 2009).

Twin pregnancy in this research can not be analyzed Odds Ratio. However, some research suggests that the twin pregnancy is a risk factor in preterm birth, including Kurdish research in Saudi Arabia that twin pregnancies at risk 7 times against preterm birth compared with singleton pregnancies. Twin pregnancy have a greater risk for premature birth and low birth weight (Van Heesch et al, 2014).

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