



Young age pregnancy and postpartum blues incidences

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ABSTRACT

The rate of postpartum blues incidence in Indonesia is between 50-70%. Young age pregnancy becomes a major risk trigger for mothers and children to experience physical and psychological impact resulting from postpartum blues. The aim of this research is to elaborate the correlation between postpartum blues and young age pregnancy. This research uses cross-sectional design, and the subjects are 90 respondents who experience 6-14 days postpartum blues. In addition, this research use data with Edinburgh Postnatal Depression Scale (EPDS), and standard social support questionnaire from the Postpartum Depression Predictors Inventory (PDPI). Data analysis uses logistic regression. Result: young age pregnancy is associated with postpartum blues incidences with p-value 0.042 (PR: 4.0, 95% CI: 1,0-15,2) and the related external variable is labor induction with p-value 0.004 (PR: 5.1; 95% CI: 1,6-15,7) and type of labor p 0,003 (PR: 5,1; 95% CI 1.7-15, 3). Interventions are needed for pregnant mothers with young age pregnancy and increasing the participation of health workers, especially midwives in providing postpartum counseling on postpartum and infant care. With these intervention, it is expected that postpartum blues can be detected as early as possible and well-managed.

Keywords : Postpartum blues, young age pregnancy, psychological

INTRODUCTION

Pregnancy and delivery are two stages in life prone to stressful potential.¹ A woman in the period of pregnancy and postpartum tends to experience considerable stress due to the limitations of physical conditions. As a result, she has to limit activities in the process of psychological adaptation.¹

Postpartum blues refers to a transient mood depression which new mothers experience resulting from hormonal changes, responsibility of having a new baby and parenting duty. Postpartum blues is characterized by sadness and anxiety which can occur everyday following the childbirth process. These symptoms normally occur on the third or fourth day, and onset may typically peak on the fifth and fourteenth day after delivery (postpartum).² If the symptoms of postpartum blues persist for longer than two weeks, the woman can develop more significant symptoms of postpartum depression and post partum psychosi.³ Postpartum blues has negative impact on children's development. Children with postpartum mothers have lower cognitive abilities than those without postpartum mothers. More over, their ability to interact with other children will also be affected.⁴

Research conducted in the United States showed that 75-80% women experienced postpartum blues.⁵ The highest prevalence of postpartum blues is in Tanzania reaching 83% and the lowest is in Japan reaching 8%. The prevalence of postpartum blues varies between 40% and 60%.⁶ The rate of post partum blues in Asia is quite high and varies between 26-85%. Globally, it is estimated that 20% of women experience postpartum blues. In Indonesia, the rate of postpartum blues is between 50-70%⁷

Results of research conducted in Jakarta showed that 120 out of 580 (25%) of mothers had postpartum blues syndrome. Research in Jakarta, Yogyakarta, and Surabaya found that the postpartum blues incidence rate was 11-30% ⁸. Based on preliminary study conducted by researchers at RSUD Wonosari, the case of postpartum blues was 15%.

While the exact cause of postpartum blues is still unclear, it is believed that postpartum blues results from external factors including, socio economic status, and low economic conditions.⁹. Internal factors are also believed to contribute on the episodes of postpartum blues which may include hormonal changes and age.³ Young age pregnancy increases the physical and psychological risks for mothers and children during pregnancy and childbirth.¹⁰ Based on the results of a study which analyzes risk factors affecting postpartum blues, postpartum blues is greatly associated with mothers' age (P 0,000 , PR = 3.41) .¹¹

According to the Riskesdes Report on 2013, it was suggested that 2.6% of women between the ages of 10-54 years were married at the age of less than 15 years. Women who get married at the age under 15 years are 23.95% and those who get married at age of 15-19 years are 23.9%. Early marriage serves the main factor leading to reproductive health problem. The high rate of pregnancy at early age indicates that young women are prone to pregnancy problems and other problems associated with pregnancy at a young age.¹

METHOD

Wonosari General Hospital which is located in Gunungkidul Regency serves as a government hospital, Wonosari Hospital also serves as a referral hospital in the district of Gunungkidul and the area around Central Java because the geographical site can be reached.

The research was conducted in Wonosari General Hospital Gunungkidul Regency from April to May 2017. This research uses cross sectional. The population of this research include women who experience postpartum on the 6th and 14th day after delivery, primipara, babies, and mother who are willing to be respondents. The exclusion criteria in this research is women with mood disorder. Sample size was calculated by using different formula two proportions from Lemeshow (1997), and the eligible respondents were 90 respondents.

The independent variable in this study is early pregnancy. Young age pregnancy usually occurs on women under 20 years old. Data are collected from secondary data and dependent variable is postpartum blues. Postpartum blues is mood disorder which happens at any time after delivery women and measured by using the Edinburgh Postnatal Depression Scale (EPDS) questionnaire. Data are analyzed by using Chi square and logistic regression.

RESULT

Respondents in this study consist of 90 postpartum mothers in Wonosari General Hospital, Gunungkidul District. Characteristics of respondents in this study are presented in the form of frequency distribution based on the variables in the study.

Table 1. The characteristic subject postpartum blues in Wonosari General Hospital in 2017

Variables	Frequency	%
Young age Pregnancy		
Age < 20 y.o	19	21,1
Age ≥ 20 y.o	71	78,9
Education Level		
Low	55	61,1
High	35	38,9
Employment		
Working Mother	28	31,1

Not Working Mother	62	68,9
Social Support		
No	1	1,1
Yes	89	98,9
Premature rupture of the membranes		
Yes	40	44,4
No	50	55,6
Episiotomy		
Yes	25	27,8
No	65	72,2
Labor Induction		
Yes	39	43,3
No	51	56,7
Labor Type		
Seksio Caesaria (SC)	46	51,1
Spontaneous	44	48,9
Postpartum Blues		
Yes	50	44,1
No	90	55,6

Table 1 shows the results of the frequency distribution of respondent variables. A total of 19 respondents (21.1%) gave birth at age <20 years, 55 respondents (61.1%) had low education (Elementary School-Junior High School), 28 respondents (31.1%) are working mother, 1 respondent (1.1 %) has no social support, 40 respondents (44.4%) experience premature rupture of membranes, 25 respondents (27.8%) has episiotomy, 39 respondents (43.3%) have performed induction, 46 respondents (51.1 %) gave birth through SC. 50 respondents (55.6%) experience postpartum blues.

Table 2. The correlation between young agepregnancy and external variables with the incidence of postpartum bluesin Wonosari General Hospital in 2017

Variables	<i>Postpartum Incidence</i>		<i>Blues</i>		<i>p-value</i>	PR	<i>Confidence Interval (CI)</i>	
							Lower	Upper
	Yes	No	Yes	No				
n	%	n	%					
Young age Pregnancy								
Age < 20 y.o	35	38,9	36	40,0	0,040	3,8	1,6	12,7
Age ≥ 20 y.o	15	16,7	4	4,4				
Education Level								
Low	31	34,4	24	26,7	1,00	1,08	0,46	2,55
High	19	21,1	16	17,8				
Employment								
Working Mother	15	16,7	13	14,4	0,79	0,89	0,36	2,18
Not Working Mother	35	38,9	27	30,0				
Social Support								
No	1	1,1	0	0	0,368	0,55	0,45	0,66
Yes	49	54,4	40	44,0				
Premature rupture of the membranes								

Yes	27	30,0	13	14,4	0,068	2,43	1,02	5,78
No	23	25,6	27	30,0				
Episiotomy								
Yes	34	37,8	31	34,4	0,445	1,62	0,62	4,19
No	16	17,8	9	10,0				
Labor Induction								
Yes	27	30,0	12	13,3	0,022	2,7	1,14	6,57
No	23	25,6	28	31,1				
Labor Type								
Seksio Caesaria (SC)	31	34,4	15	16,7	0,036	2,71	1,153	6,412
Spontaneous	9	21,1	25	27,8				

The results of the analysis in Table 2 show that early pregnancy, labor induction, and type of labor become 3 significant variables. . Results of analysis with early pregnancy variable <20 years obtain p value of 0.040, with PR = 3.8. It means that early pregnancy <20 years has a chance of 3.8 times to experience postpartum blues compared to postpartum mothers with age ≥ 20 years . The result of analysis with induction labor variable obtains p value of 0,022, with PR = 2, It means that women who performed induction of labor have chance 2,7 times to experience postpartum blues. The result of analysis on the type of labor in SC obtains p value equal to 0,036 with PR = 2,71 and it means that postpartum blues women with SC have opportunity 2,71 times to experience postpartum blues compared to postpartum women who do spontaneous labor.

The results of the analysis on external variables show that education has p-value of 1.00 (PR 1.08 95% CI 0.46-2.55). Meanwhile, employment status has p-value of 0.79 (PR 0.89 95% CI 0.36-2.18); social support has p-value of 0.36 (PR 0.55; 95% CI 0.45-0.66); premature rupture membrane has a p-value of 0.068 (PR 2, 43, 96% CI 1.02-5.78) and episiotomy has p-value of 0.445 (PR 1.62 95% CI 0.62-4.19). If p value > 0.05 meaning that 5 variables are not statistically significant for postpartum blues incidences.

Table 3. Table results of multivariate analysis on Young age pregnancy, induction and labor type with postpartum blues in Wonosari General Hospital in 2017.

Variables	Koef.β	P	PR	95% CI
Young Age Pregnancy	1,388	0,042	4,008	1,050- 15,298
Induction	1,637	0,004	5,141	1,683- 15,702
Labor Type	1,637	0,003	5,139	1,718-15,369
Constant	- 1,514	0,168	0,656	

The result of analysis of table 3 shows three most significant risk variables ($p < 0,05$ and $p < 0,25$). The three variables are then tested by multivariate statistical test by using logistic regression test. The statistical test used was logistic regression with significance level of 0.01. Regression test result obtained early pregnancy with p-value 0,042 with PR = 4.0 95% CI: 1,050-15,298, induction of labor with p-value 0,004 PR: 5,1; 95% CI: 1,683-15,702 and type of labor with p-value 0,003 PR: 5,1; 95% CI 1.718-15, 369. Probability of postpartum blues events in postpartum women with risk factors for young age pregnancy, labor induction and type of labor.

$$y = -1,514 + 1,388 (\text{young age pregnancy}) + 1,637 (\text{labor induction}) + 1,637 (\text{labor type})$$

$$y = -1,514 + 1,388 (1) + 1,637 (1) + 1,637 (1)$$

$$y = 3,148$$

thus, the probability of $p = 1 / (1 + 2,7^{(-3,148)})$ is $p = 4,2\%$

This equation shows that postpartum women with risk factors of young age pregnancy, induction labor, and labor type are possible to experience postpartum blues for 4,2%.

DISCUSSION

Postpartum blues is a normal peripartum incidence which women experience after delivery. It commonly occurs on the third or fourth day, and onset may typically peak on the fifth and fourteenth day after delivery (postpartum).² If the symptoms of postpartum blues persist for longer than two weeks, the woman can develop more significant symptoms of postpartum depression and postpartum psychosis.³ Postpartum depression is considerable depression which occurs following childbirth which are commonly characterized by such classical symptoms such as sleeping deprivation, loss of appetite, low energy, and suicidal thought for at least two weeks.²

The results of the analysis vividly show the results of the respondents' characteristics, the relationship between young age pregnancy and postpartum blues and the relationship of young age pregnancy after controlled by external variables. The results of research on 90 postpartum women in Wonosari General Hospital show that almost 50 women (55.6%) had postpartum blues and 40 people (44.4%) did not experience postpartum blues. Bivariate analysis showed that three variables have the highest correlation with postpartum blues incidence namely pregnancy, induction of labor, and labor type. External variables such as education, job status, social support, premature rupture of membranes and episiotomy are the leading factors to postpartum blues, but they are not related to each other. The results of multivariate analysis show that young age pregnancy and labor type are the most related variables.

The results of this study indicate that young age pregnancy and postpartum blues have a significant relationship with p -value 0.033 with $PR = 3.80$ (95% CI 1.117 - 12.934). In this research, there were 50 women with postpartum (55,6%) and 40 women without postpartum (40,4%). Pregnancy in age <20 years is found in 15 respondents (16,7%) who experienced postpartum blues. Women with young age pregnancy had a 3.80-fold risk of postpartum blues compared to mothers with pregnancy at the age ≥ 20 years (95% CI 1.117-12.934).

The results of this study support a study which shed a light on the relationship between age and postpartum blues. The obtained p -value is equal to 0.003 with significance level set at $\alpha = 0.05$. The value of $p < \alpha$, so H_1 is accepted. Therefore, there is relationship between age and postpartum blues.¹² This research also supports previous research which analyzed the maternal age <20 years with multivariate analysis. It showed that maternal age is the most dominant factor which influences postpartum blues with P -value value of 0.000 ($p < 0.05$) and $OR 3.41$; 95% CI 2,129-5,469. Other studies also suggest that early age tends to cause higher risk for postpartum blues.^{8,13,14}

Related to pregnancy and childbirth, age is often associated with the woman's mental readiness to become a mother. Young age pregnancy accelerates the physical and psychological risks for a woman and her baby during pregnancy and childbirth.¹⁰ In addition, young age pregnancy increases biomedical risks, leads to less optimum behavioral pattern for a mother and her newly-born baby.¹⁵

Pregnancy and childbirth at an early age to be one of the leading factors to postpartum blues. It is believed that emotional maturity increases as the mother gets older. As a result, it increases the involvement and satisfaction of parents and shapes the optimum maternal behavioral pattern.

In addition to young age pregnancy factor, labor type has a significant relationship with p -value 0.028. SC type of delivery has a 2.6-fold risk of postpartum blues compared to spontaneous delivery (95% CI 1.111-6.500). 31 respondents have SC type and postpartum blues (34,5%) while 19 respondents (21,1%) have normal delivery process and postpartum blues.

The finding supports the study which states that there is a significant relationship between artificial birth with postpartum blues incidence with p value = 0.037. Feelings of uselessness rises due to the inability to give birth normally. Depression also possibly emerges due to the post-cesarean longer recovery process.⁸

This type of labor is one of the factors resulting in postpartum blues episodes. Women who are used to hospital procedures suffers subtler mental disorders compared to those who are not. Interventions in labor, such as device-assisted delivery, the use of epidural analgesia and caesarean epilepsy may have long-term

effects on the mother. Therefore, these procedures reduces the mother's self-confidence in performing her roles, disrupts natural attachment processes and increases postpartum blues to postpartum depression.¹⁶

Cesarean delivery process is the labor type involving a transabdominal transition to the uterus, whether planned or not.² The lack of experience in giving birth normally impacts the mother's self-concept. The purpose of a cesarean section is to provide the life or health of the mother and fetus due to maternal or fetal stress.²

Labor induction refers to labor contractions before spontaneous onset to speed up labor. Interventions in labor such as induction-induced labor and equipment help may increase postpartum stress, reduce maternal confidence in the smoothness of the delivery process, with an increased postpartum blues.² These stimulating stressors allow the adrenal cortex to produce excessive cortisol hormone, with increased postpartum blues.¹⁷

Bivariate test results obtain p-value 0,035 (p-value <0,05). It means that induction labor has a significant postpartum blues incidence and has PR 2,6. Thus, induction during delivery increases risk of postpartum blues for 2,6 times compared to those do not perform induction with 95% CI 1.07-6.40.

This finding supports with studies showing that induction labor causes an increased risk of postpartum blues incidence of 5.50 times compared to induced labor with a p-value of 0.028 (p <0.05).¹⁸

The use of induction in labor will cause uterine hyperstimulation (the mother feels more severe pain than regular uterine contractions), nausea, vomiting, headache and hypotension.² The use of oxytocin induction has been proven to increase the amount of pain received by the mother and increases the risk of hyperstimulation. Experiencing this severe pain will cause anxiety and fear for the mother. Mothers will also experience anxiety and fear and worry about the success of the intervention. Maternal anxiety and anxiety, the possibility of complications in infants and mothers is one of the contributing factors for the possibility of postpartum blues.¹⁶

Another leading factor to postpartum blues is education. The level of education in this study obtained p-value 1.00 (p > 0.05). This shows that education has no significant relationship with postpartum blues with PR 1.08; 95% CI; 0.464-2.55. The finding supports previous research which analyzed the risk factors influencing the postpartum blues incidence. Education has p-value of 0.282 (p > 0,05) which indicates that education does not give significant effect on postpartum blues.¹¹ A highly educated woman faces social pressure and role conflict between demands to work, to perform activities outside the home and the role of a housewife or parent for her children.¹⁹

Employment variable does not have significant relationship with p-value 0.890 (p > 0.05) with 95% CI; 0.363-2.18. This finding is also consistent with a study which analyzed the risk factors affecting postpartum blues. The employment status variable has a p-value of 0.282 (p > 0.05). Another study explained that there was no significant difference in postpartum blues based on demographic characteristics such as education, employment, economic status, and marital status.^{11,20}

Analysis on social support also shows that there is no significant correlation with p-value 1.00 (p > 0,05) with 95% CI; 0.456-0.664. It strengthens the result of previous research which obtained data based on social support from the majority of respondents who experienced postpartum blues.²¹

Premature rupture of membranes does not show a significant relationship with p-value of 0.68 (p > 0.05) with PR 2.43; 95% CI; 1,027-5,787. It strengthens the result of previous research which proved that labor complication does not affect the possibility of postpartum blues (p-value = 0.148). In the study, the labor involves labor induction with oxytocin and labor trauma such as premature rupture of membranes.¹⁷

Episiotomy shows no significant relationship, with p-value 0,445 (p > 0,05) with PR value 1,6,95% CI 0,626-4,194. This finding is similar to research conducted in Makassar whose the results showed the complication of labor does not affect the occurrence of postpartum blues (p-value = 0.148).¹⁷ The act of delivery referred to in this study is labor acts performed with the help of tools and the use of an instrument to assist with labor.¹⁷

CONCLUSION

There was a significant relationship between young age pregnancy and postpartum blues incidences with p-value 0.042 PR: 4.0; 95% CI: 1,050-15,298, induction of labor with p-value 0.004 PR: 5.1; 95% CI: 1,683-15,702 and type of labor with p-value 0,003 PR: 5,1; 95% CI 1.718-15, 369. Young age pregnancy <20 years increases risk 4.0 times compared to women whose pregnancies \geq 20 years to experience postpartum blues events.

SUGGESTION

Interventions need to be given for women with young age pregnancy, so they get adequate information. Besides, the participation of health workers, especially midwives, must be increased in providing counseling on postpartum and infant care, so postpartum blues can be known early and can be handled.

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