

ORIGINAL ARTICLE

Factors Influencing the Incidence of Postpartum Blues in Postpartum Mothers

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ABSTRACT

Introduction: Postpartum blues is a temporary mood disorder experienced by mothers after giving birth. There are many factors that influence postpartum blues including age, parity, family support, sleep quality, and anxiety. The purpose of this study was to analyze the factors that influence the incidence of postpartum blues in Cisarua Village, Sukabumi UPTD Puskesmas Working Area, Sukabumi City. **Methods:** This study used correlational methods with cross-sectional approach. The population in this study were all postpartum blues mothers with a sample size of 80 respondents using total sampling. Univariate analysis in this study used descriptive statistical analysis for variables of age, parity, family support, sleep quality, anxiety level. Statistical analysis using logistic regression. **Result:** The results showed that the results of the chi-square statistical test obtained p-value <0.05 which means that maternal age, parity, family support, sleep quality and anxiety level have an influence on the incidence of postpartum blues in postpartum mothers. The results of logistic regression statistical tests obtained maternal age, parity, family support, sleep quality and anxiety level have an influence on the incidence of postpartum blues (p-value < 0.01 ; R Square = 0.656). The dominant variable that affects postpartum blues is family support (OR = 10.590). **Conclusion:** Maternal age, parity, family support, sleep quality and anxiety level have an influence on the incidence of postpartum blues with a dominant influence on family support.

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INTRODUCTION

The postpartum period is the period in the first few weeks after birth. This period is a significant risk factor for the development of serious mood disorders. There are three forms of psychological changes that can occur during the postpartum period, namely postpartum blues (maternity blues or baby blues), postpartum depression, and postpartum psychosis. The most common emotional disorder experienced by almost every new mother is postpartum blues (1).

Postpartum blues is a temporary mood disorder experienced by mothers after childbirth caused by physical changes and emotional changes. This condition is characterized by feelings of sadness and depression that appear a few days after delivery, usually on the second or third day and will generally subside within one to two weeks (2). The exact cause of postpartum blues is not fully known but it is suspected that several factors including drastic hormonal changes after childbirth will

affect chemicals in the brain that regulate mood, thus disturbing the mother's feelings. In addition, fatigue due to the process of giving birth and breastfeeding and changes in routine due to caring for the baby can also worsen the mother's condition (3).

Referring to WHO data reported in BBC News Indonesia, around 10% of pregnant women and 13% of women who have just given birth experience mental disorders, especially depression. The incidence of postpartum blues in several countries varies, namely Japan by 15%-50%, the United States by 27%, France by 31.7%, Nigeria by 31.3% and Greece by 44.5%. The prevalence for Asia is quite high between 26-85%, while in Indonesia the incidence of postpartum blues is in the range of 50-70% (4, 5).

Postpartum blues can have a negative impact on the baby including inhibiting growth and development such as language delays and low IQ, besides the impact on the mother is a decrease in breast milk production which is important for the baby's nutritional intake, and mothers who experience depression also have difficulty in understanding their baby's emotional expressions. The mother's inability to respond appropriately to the baby's needs can cause stress to the baby. Over time,

the mother may feel like a failure which in turn worsens her emotional state (6).

There are many factors that influence postpartum blues, one of which is age. Pregnancy at too young an age, for example under 20 years old, increases the risk due to a lack of emotional and mental readiness to become a mother. Conversely, older pregnancies are also at risk of triggering postpartum blues. Decreased physiological function at this age makes the body less optimal and less prepared for pregnancy and childbirth, which can trigger fatigue and stress, the main symptoms of postpartum blues. Although older mothers may have more experience and mental preparedness, a significant drop in energy during labour can also increase the risk of postpartum blues (6).

Young mothers are often associated with first birth. The incidence of postpartum blues is most prevalent in primiparous mothers. Primiparous mothers are first-time mothers, so they are more vulnerable to postpartum blues because they have not had experience caring for children before. In addition, they also have to adjust to their new role as mothers (7, 8). Primiparous mothers in carrying out their new duties as mothers certainly need the presence of family. Family support in primiparous mothers contributes to the occurrence of postpartum blues. Family support is any form of behaviour and positive attitude given by the family to one of its members who is sick or facing health problems (9). Family support includes attention, communication, and close and intimate emotional relationships. Support focuses on good communication and warm emotional relationships with parents, especially mothers so that it helps mothers in obtaining quality sleep (10).

Poor sleep quality in the early postnatal period that continues into the later stages can trigger postpartum blues. New mothers experience changes in sleep patterns, especially in the first week after giving birth, because they have to wake up in the middle of the night to breastfeed their babies. Irregular sleep cycles in newborns also make mothers wake up frequently at night and lose adequate sleep, increasing the risk of postpartum blues (11). Anxiety levels also contribute to postpartum blues. Anxiety can have a negative impact on pregnant women from pregnancy to childbirth, such as causing the fetus to become restless, thus inhibiting its growth and weakening uterine muscle contractions that could potentially harm the mother and fetus. In addition, anxiety during pregnancy can also increase the risk of depression in mothers after childbirth, thus increasing the likelihood of postpartum blues syndrome (12).

Mothers who experience postpartum blues tend to have a negative quality of life for both mother and baby. Untreated postpartum blues can develop into more

severe postpartum depression, which is an advanced condition of postpartum blues. This condition can lead to self-harm and even harm to the baby. The purpose of this study was to determine the factors influencing the incidence of postpartum blues among postpartum mothers in Cisarua Village, UPTD Puskesmas Sukabumi, Sukabumi City.

MATERIALS AND METHODS

Study Design

This study used correlational methods with a cross sectional approach. This study was conducted in Cisarua Village, UPTD Puskesmas Sukabumi, Sukabumi City. Before data collection, ethical clearance was carried out with number No: 000886/KEP STIKES SUKABUMI/2024 issued by the Sukabumi College of Health Sciences.

Sample

The population in this study were all postpartum blues mothers in Cisarua Village, UPTD Puskesmas Sukabumi, Sukabumi City with a sample size of 80 respondents. The sampling technique used was total sampling. Inclusion criteria were willing to be a respondent and who experienced postpartum blues in Cisarua Village, Sukabumi City UPTD Puskesmas Working Area.

Instrument

The General Anxiety Disorder-7 (GAD-7) is the anxiety questionnaire utilized in this investigation. With seven items and giving scores ranging from 0 to 3, the GAD-7 is a preliminary screening test for generalized anxiety disorder. "Not at all," "some days," "more than half the days," and "almost every day" are response options on the GAD-7 that provide scores of 0, 1, 2, and 3, respectively, indicating how frequently the patient has experienced various forms of anxiety over the previous two weeks. A fair cut-off point for additional identification is a score of 8 or above. The GAD-7's Cronbach alpha of 0.92 indicates that it has great internal consistency (13).

The family support variable refers to the Perceived Social Support Questionnaire Family (PSS-Fa) instrument, which consists of 20 questions divided into instrumental, appreciative, emotional, and informative indicators. Responses on the PSS-Fa consist of 'strongly disagree,' 'disagree,' 'agree,' and 'strongly agree' with scores of 1, 2, 3, and 4, respectively. The PSS-Fa has a Cronbach's alpha value of 0.9, indicating very strong reliability (14). The PSQI (Pittsburg Sleep Quality Index) is a questionnaire that assesses sleep quality and disturbances over a period of more than one month. The 18 items are divided into seven assessment components: subjective sleep quality, sleep latency, sleep duration, sleep efficiency, sleep disturbances, use of sleep medication, and daytime sleep dysfunction. The PSQI has been shown to have strong reliability with a Cronbach's alpha value of 0.78, based on previous studies (15).

Data Analysis

Data Univariate analysis in this study used descriptive statistical analysis for variables of age, parity, family support, sleep quality, anxiety level. Statistical analysis using logistic regression. All statistical analysis was performed using SPSS version 26 software.

RESULTS

Table I shows that most of the respondents were on postpartum days 7-28 days as many as 37 respondents (46.3%), high school education as many as 41 respondents (51.3%), unemployed status as many as 53 respondents (66.3%), did not experience premature rupture of membranes as many as 59 respondents (73.8%), no labor wounds as many as 60 respondents (75%), no induction of labor as many as 62 respondents (77.5%), and normal type of labor as many as 61 respondents (76.3%).

Table I : Characteristics Of Respondents

Variables	F	%
Postpartum Days		
<7 days	24	30
7 – 28 days	37	46,3
>28 days	19	23,8
Education		
College	4	5,0
High School	41	51,3
Junior High School	21	26,3
Elementary School	14	17,5
Employed		
Working	27	33,8
Not Working	53	66,3
Early rupture of membranes		
Available	21	26,3
Not present	59	73,8
Labor Wounds		
Yes	20	25,0
No	60	75,0
Induction of labor		
Yes	18	22,5
No	62	77,5
Type of Labor		
Normal	61	76,3
Not Normal	19	23,8

Table III : Bivariate Analysis

Variable Independens	Category	Incidence of Postpartum Blues				Total		P-Value	OR
		Yes		No					
		n	%	n	%	n	%		
Mother's Age	20-35 Years	20	63,6	16	36,4	44	100	< 0.001	0,92
	<20 and > 35 Years	5	13,9	31	86,1	36	100		
Parity	Primiparous	25	61,0	16	39,0	41	100	< 0.001	0,165
	Multiparous	8	20,5	31	79,5	39	100		
Family Support	Not Support	21	84,0	4	16,0	25	100	< 0.001	0,053
	Support	12	21,8	43	78,2	55	100		
Sleep Quality	Poor	25	78,1	7	21,9	32	100	< 0.001	0,056
	Good	8	16,7	40	83,3	48	100		
Anxiety	Hard	19	70,4	8	29,6	27	100	< 0.001	6,616
	Light	14	26,4	39	73.6	53	100		

Table II : Univariate Analysis

Variables	F	%
Mother's Age		
20-35 Years	44	55
<20 and > 35 Years	36	45
Parity		
Primiparous	41	51,3
Multiparous	39	48,4
Family Support		
Not Supportive	26	32,5
Support	54	67,5
Sleep Quality		
Poor	33	41,3
Good	47	58,8
Anxiety Level		
Heavy	26	32,5
Mild	54	67,5
Post Partum Blues		
Occurred	33	41,3
Not Occurred	47	58,8

Based on table II, it showed that most respondents were ≤20 years old as many as 44 respondents (55%), primipara parity status as many as 41 respondents (51.3%), getting family support as many as 54 respondents (67.5%), having good sleep quality as many as 47 respondents (58.8%), having mild anxiety levels as many as 54 respondents (67.5%), and no postpartum blues as many as 47 respondents (58.8%).

Table III shows that the results of the chi-square statistical test obtained p-value <0.05, which means that maternal age (OR = 0,92), parity (OR = 0,165), family support (OR = 0,053), sleep quality (OR = 0,056) and anxiety level (OR = 6,616) have an influence on the incidence of postpartum blues in postpartum women. Based on table IV shows that the results of the logistic regression statistical test obtained p-value <0.05 which means that maternal age, parity, family support, sleep quality and anxiety level have an influence on the incidence of postpartum blues in postpartum women significantly with an R Square value of 0.656 which means that all variables contribute to influencing the incidence of postpartum blues by 65.6% and 34.4% are influenced by other factors not studied. The most dominant variable

Table IV : Multivariate Analysis

Variables	B	P-Value	OR
Mother's Age	1.777	0.018	5.912
Parity	1.884	0.015	6.582
Family Support	2.360	0.012	10.590
Sleep Quality	1.987	0.020	4.992
Anxiety	1.993	0.022	3.919
Constant	-3.609	< 0.001	0.027
<i>R Square = 0,656</i>			

affecting the incidence of postpartum blues in postpartum women is family support. The family support variable has an Odds Ratio of 10.590, meaning that postpartum mothers who get family support have a chance of not having postpartum blues by 10.590 times compared to postpartum mothers who do not get family support.

DISCUSSION

Effect of Mother's Age on the Incidence of Postpartum Blues

The results of the study state that there is a relationship between maternal age and the incidence of Postpartum Blues with the results of the chi-square statistical test obtained p-value <0.05. According to research by Handini et al. (2021), it shows that there is a significant relationship between maternal age and the incidence of postpartum blues with a p-value of 0.014 (16). These results are also in line with the research of Afsheen et al. in 2022 which states that there is a relationship between maternal age and Postpartum Blues with a p-value of <0.001 (17). This result is different from the research of Zejnullahu et al. which shows the value of the chi square statistical test with a p-value of 0.791 so that it can be stated that there is no relationship between the age of the mother and the incidence of postpartum blues at the Clinic for Obstetrics and Gynecology in Pristina (18).

Age is a unit of time used to measure the length of existence of living things. With increasing age, the level of maturity and ability of a person to think and work will increase. The age of women during pregnancy and childbirth is often associated with mental readiness to become a mother. Most people believe that the ideal age for a woman to give birth is between 20-30 years old, as it is considered optimal for the mother to care for the baby (19).

A woman's age at pregnancy and childbirth is often associated with her mental readiness to become a mother. Being too young to become pregnant will trigger risks for the mother and child from a physical and psychological perspective both during pregnancy and childbirth. Pregnancy and childbirth at an early age is one of the supporting factors for postpartum blues. It is suspected that increasing maternal age will increase emotional maturity, thus increasing involvement and

satisfaction in the role of parents and forming optimal maternal behavior patterns as well (16).

At a younger (teenage pregnancy) or older age, it is believed to increase biomedical risk, which results in less optimal behavior, both for the mother and the baby or child who is born and cared for. It is thought that as mothers age, their involvement and satisfaction in their parenting role increases, which supports the formation of more optimal maternal behaviors (20).

This fact shows that age has an effect on pregnancy and childbirth. The age considered safest for pregnancy and childbirth is between 20 to 35 years, because during this period the uterus is ready to conceive, mentally more stable, and the ability to care for oneself and the baby has developed. If a woman chooses to become pregnant outside this age range, there is a greater chance of having a high-risk pregnancy (21).

Effect of Maternal Parity on the Incidence of Postpartum Blues

The results showed a p-value <0.05 which means there is a relationship between parity and the incidence of Postpartum Blues. These results are in line with the research of Sari et al., in 2021 showing the results of statistical tests using chi square obtained a value of $p = 0.040$ (<0.05) so that there is a significant relationship between maternal parity and the incidence of postpartum Blues (8). This is also in line with research conducted by Saraswati in 2018 namely the incidence of Postpartum Blues mostly occurs in primiparous obstetric status, namely 6 respondents (20%) with a p value = 0.011 (<0.05), while multiparous as many as 3 respondents (10%) which means there is a relationship between obstetric status and the incidence of postpartum Blues (22).

Many factors influence the occurrence of postpartum blues, one of which is parity (number of children). Mothers who have never given birth tend to experience postpartum blues more easily due to lack of experience in caring for children, and must adjust to a new role as a mother. Postpartum blues generally occurs in about 50% of new mothers (mothers who have never given birth before). Primiparous mothers are also at risk of complications, depending on their physical, psychological readiness and knowledge of the pregnancy to postpartum period (8).

Physical exhaustion is often experienced by mothers because they have to take care of children almost all day long, from bathing babies, changing diapers, breastfeeding, dealing with stress when children are fussy or sick, putting children to bed, and various other activities that are very tiring. With the birth of a second or third child, this burden certainly increases, which in turn can lead to high levels of stress in the mother (22). Women experiencing pregnancy for the first time often

face new situations that can trigger stress. Although some women feel happy with their pregnancy, anxiety may also arise. Changes that occur during pregnancy, especially increased hormones, can lead to increased levels of anxiety. Psychologically, women who have just given birth often face mental distress. Although many of them initially feel happy for the birth of their baby, over time they can experience mood swings, feelings of sadness, and distress. These conditions usually appear in the first week after giving birth, especially between the third and fifth day. This psychological disorder is known as Post Partum Blues (19).

Effect of Family Support on the Incidence of Post Partum Blues

The results showed that family support had a significant effect on the incidence of postpartum blues where respondents who did not get family support could cause postpartum blues in postpartum mothers. This is in line with Salat's research in 2021 explaining that family support is closely related to the incidence of postpartum blues (23). This is also supported by research conducted by Valla et al., in 2022 which states the same thing where family support obtained by postpartum mothers will minimize the risk of postpartum blues. Conversely, if postpartum women who do not get family support have a high risk of postpartum blues (24). Family support acts as a crucial coping strategy in dealing with stress and serves as a preventive measure to reduce stress and its negative effects. Therefore, family support is needed by women after childbirth. Maximum support from the family can help reduce the risk of postpartum blues (25). Mothers who experience baby blues syndrome are postpartum mothers who have low family support. Mothers lack support from their husbands and families where mothers have to do all the housework, take care of their own babies during the postpartum period. Therefore, family support is needed which is very good for postpartum mothers, because good support from the family will provide its own emotional strength for postpartum mothers. Many mothers struggle alone in the moments after giving birth. They feel something is wrong but they don't really know what is going on (26). Whereas postpartum mothers who get very good support from their families do not experience postpartum blues. This happens because postpartum mothers get full support from the family both in terms of informational, assessment, instrumental and emotional support. Postpartum mothers who get very good support from their families do not experience postpartum blues. This happens because postpartum mothers get full support from the family both informally, assessment, instrumental and emotional support (27).

Effect of Sleep Quality on the Incidence of Post Partum Blues

The results showed that sleep quality was significantly associated with the incidence of postpartum blues where respondents with good sleep quality did not cause

postpartum blues in postpartum women. These results are in line with the research of Obeysekare et al. in 2020 explaining that the quality of sleep of postpartum women is closely related to the incidence of postpartum blues (28). The explanation of the research of Sun et al (2024), also states the same thing where sleep disturbances that occur in postpartum women will increase the risk of postpartum blues (29). Conversely, if the postpartum mother's sleep quality is good, the risk of postpartum blues is low. Good sleep quality in postpartum mothers is characterized by adequate, unfragmented sleep, and lasts for 7-9 hours per night. Good sleep includes a deep sleep phase, is essential for physical and mental recovery, and maintains the balance of hormones that affect mood. Good sleep quality is also indicated by the uninterrupted REM (Rapid Eye Movement) phase, as this phase plays a role in processing emotions and stress. If postpartum mothers are able to maintain a consistent sleep pattern with sufficient duration, this will help reduce fatigue, improve mood, and reduce the risk of psychological disorders such as postpartum blues (10). Good sleep quality can play an important role in preventing postpartum blues in postpartum women. When mothers get adequate and quality sleep, it helps in physical and mental recovery after labor. Conversely, sleep disturbances can increase the risk of fatigue, stress, and mood disorders, which are often the main triggers for postpartum blues. Postpartum mothers who experience chronic fatigue due to sleep deprivation are often more prone to mood swings, feelings of anxiety and depression. Therefore, by improving sleep quality through support, adequate rest, and good sleep management, mothers can maintain emotional and physical balance, thus lowering the risk of postpartum blues. Studies also show that poor sleep quality is directly related to increased fatigue and decreased cognitive function, which then contributes to mental disorders during the postpartum period (30).

Effect of Anxiety Level on the Incidence of Postpartum Blues

The results showed that the level of anxiety was significantly related to the incidence of postpartum blues where respondents who did not experience anxiety did not cause postpartum blues in postpartum women. In line with the results of research Camarneiro in 2020 explaining that there is a relationship between anxiety and the incidence of postpartum blues (p value 0.001 <0.05) (31). Anxiety is an unpleasant and unjustified feeling of fear accompanied by physiological symptoms, while anxiety disorders contain elements of significant suffering and functional disorders caused by anxiety (32). Anxiety disorders in the postpartum period are a sign of postpartum blues that must be watched out for in the first week of the postpartum period. The results of the study show that postpartum blues detect psychological stress, which is one of the factors causing postpartum depressive symptoms, namely anxiety about childbirth that predicts postpartum psychoemotional (21),

In conditions after childbirth, estrogen and progesterone levels in the body decrease, mothers sometimes feel exhausted after giving birth and feel pain in the perineum. Mothers can feel very depressed and may cry for reasons they do not understand (33). Anxiety occurs due to her ability to take care of and look after the baby after finishing treatment in the hospital and the fear of becoming unattractive to her husband is a psychological adaptation experienced by postpartum mothers. Sudden changes in hormonal conditions cause postpartum mothers to be more sensitive to things that can be handled under normal conditions (34).

Multivariate

The results of the study by analyzing the simultaneous influence of factors that can affect the occurrence of postpartum blues in postpartum mothers, the factor that plays the most role in influencing the incidence of postpartum blues is family support. Compared to other factors, family support has a positive impact on postpartum mothers. Family support, especially from husbands and parents, plays an important role in reducing the risk of postpartum blues in postpartum mothers. This support can be in the form of emotional support, information, and practical support that helps mothers feel less alone and more confident in facing the postpartum period. Husbands who provide attention and empathy, and are involved in baby care, help reduce the psychological burden that can trigger postpartum blues. In addition, support from extended family, such as mothers or in-laws, who help with household chores or baby care, gives mothers time to rest and recover physically and emotionally. Mothers who receive good family support tend to have better physical and psychological recovery, so the risk of experiencing postpartum blues is significantly reduced (27). This is in line with the results of research by Qi et al (2022), which states that family support affects the incidence of postpartum blues in postpartum women (35).

The research limitation in this study is the measurement of postpartum blues symptoms only measured between 6-8 weeks after birth. This has several impacts including this study has not described the effect of independent variables, namely age, parity, family support, sleep quality and anxiety on postpartum blues variables over time so that the results of the study do not describe the development of postpartum blues experienced by mothers and postpartum mothers who have PPD symptoms cannot report the symptoms they feel.

CONCLUSION

Maternal age, parity, family support, sleep quality and anxiety level have an influence on the incidence of postpartum blues with a dominant influence on family support. It is expected that basic health facilities can provide family centered care (FCC) based services for pregnant women and mothers who will face childbirth

such as training, newborn care, and postpartum care so as to prevent the occurrence of postpartum blues.

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