

## Risk factor analysis of baby blues symptoms in postpartum women with a history of complications during childbirth

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### ABSTRACT

**Background:** Postpartum emotional mental disorders, one of which is postpartum blues or known as baby blues. If during pregnancy and child birth the mother experiences complications, this can exacerbate her emotional changes.

**Objectives:** This study aims to analyze the risk factors for the occurrence of baby blues symptoms in postpartum women with a history of complications during childbirth.

**Methods:** This type of research is descriptive analytic, using across sectional approach. Sampling was carried out by accidental sampling method where the sample and sample size were taken based on the time limit for data collection, namely mothers who visited the postpartum period 1-14 days at SK Lerik Kupang Hospital, NTT in April-June 2023. Data on patient characteristics were taken using a questionnaire, while measuring the diagnosis of baby blues using the PASS (Perinatal Anxiety Screening Scale) questionnaire.

**Results:** Data analysis used was univariate analysis with frequency distribution table, bivariate analysis with simple logistic regression, multivariate analysis with multiple logistic regression. The results of this study indicate that more than half (68%) of postpartum mothers with a history of complications during childbirth (68%) have a high risk of experiencing postpartum blues. Factors that can influence the occurrence of postpartum blues in mothers with a history of complications during child birth are the type of delivery ( $p=0.001$ ), mother's occupation ( $p=0.004$ ), family income ( $p=0.011$ ), husband's support ( $p=0.000$ ), and social support ( $p=0.005$ ).

**Conclusions:** Factors that can increase the risk of baby blues syndrome in mothers with a history of child birth complications are mothers who under go cesarean section, housewives, mothers whose household income is less than the Regional Minimum Wage (UMR), and mothers who do not get support from their husbands, and do not receive social support from family, neighbors and friends and the surrounding community.

**KEYWORD:** baby blues syndrome; history of complications during childbirth; postpartum

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## INTRODUCTION

Postpartum emotional mental disorders, one of which is postpartum blues or known as baby blues. It is a disorder that is often experienced by mothers who have just given birth, even mothers do not realize it. Baby blues attacks cause a lot of suffering and decreased body function in mothers, as many as 1 in 5 mothers can experience baby blues (1). Postpartum blues or baby blues are defined as feelings experienced by mothers after childbirth that are characterized by symptoms of panic attacks, anxiety, fatigue and feelings of guilt because they feel they can not take good care of their baby (2). If a mother experiences the postpartum period and does not get help to eliminate the disorder, then this can lead to a more serious impact, namely postpartum depression, which is a condition where the mother even wants to commit suicide because she feels unworthy and unfit to be a mother. Some of the impacts reported in mothers who suffer from baby blues include: decreased milk production, reduced couple harmony, insomnia, feelings of discomfort in the mother, and even postpartum depression (3).

Postpartum blues is also related to the development of the baby later in life. If the mother experiences post partum blues and then is not resolved and becomes a case of post partum depression, then this will affect 10-15% of mothers and interfere with child development. Research conducted by Deems & Leuner, 2020 that mothers who experience depression in the postpartum

period will contribute to the disruption of child development because mothers take care of their babies with tighter parenting behavior, bonding between mother and baby is very important for the process of child development (4). The incidence of mental and emotional disorders in Indonesia in the population aged over 15 years was 6% in 2013 and increased to 9.8% in 2018. In general, mental and emotional disorders that often occur are anxiety and depression. In women, the incidence of depression in Indonesia is 7.4% in women over 15 years (5). Women are very vulnerable to depression, especially during the postpartum period. 80% of mothers experience baby blues on the third day of the postpartum period. If the baby blues symptoms occur repeatedly and are not treated properly, the baby blues experienced by the mother will increase to postpartum depression. As many as 30-40% of post partum mothers world wide are diagnosed with postpartum depression, but only 14-16% of mothers receive mental health services (6). This certainly needs serious attention, because mental health is one of the targets to be achieved in the by 2030.

Pregnant women and postpartum women are a group that is very at risk of infection during pregnancy and childbirth, besides that this group is also very at risk of experiencing physical and psychological changes (7). Psychological changes that occur in pregnant women (especially in the last trimester) and in laboring and postpartum

women are risk factors that can increase the risk of psychological disorders. In post partum mothers, one of the psychological disorders that often occurs is post partum blues or baby blues. Baby blues are thought to be caused by hormonal changes in post partum women (8).

During pregnancy, mothers experience increased hormone levels, while after giving birth, the amount of hormone production undergoes a drastic change that is very significant so that it can affect the emotional health of the mother. If during pregnancy and childbirth the mother experiences complications or complications, then this may exacerbate the mother's emotional changes. Research conducted by Putri, et al. 2022 stated that mothers who experience complications and complications during childbirth are more likely to experience baby blues (9).

Many factors influence the occurrence of postpartum blues in mothers, including lack of support, high complications during pregnancy, the presence of comorbidities in maternal health, health problems in baby care, a history of miscarriage, babies born in ICU or characteristics of babies who are born often fussy and cry excessively (10). In addition, other factors such as physical pain and fatigue after child birth, breast milk that has not been released, lack of moral support from husband and social environment, high-risk pregnancy, traumatic or complicated birth, history of previous miscarriages, maternal and infant health problems during pregnancy

and childbirth, and characteristics of newborns who tend to cry a lot and fuss also affect the risk of baby blues in postpartum mothers (11). Postpartum blues that are not treated properly will have an immediate impact on the mother and also include long-term risks to the mother's mental health. In addition, it can also negatively impact the development of the child physically, mentally and intellectually. Therefore, it is necessary to conduct research that identifies and analyzes the risk factors for the occurrence of baby blues in mothers with childbirth complications. This study aims to analyze the risk factors for the occurrence of baby blues symptoms in postpartum women with a history of complications during childbirth (12).

Every postpartum mother is at risk of experiencing baby blues, but many postpartum mothers are not aware of it. This is because postpartum mothers or their families consider the signs and symptoms of baby blues experienced as something normal (13). Postpartum blues can develop into major depressive symptoms. More than 20% of women who experience postpartum blues will develop into major depressive symptoms within one year after giving birth. If postpartum blues is not treated seriously, it will develop into postpartum depression and the most severe condition can be postpartum psychosis.

Postpartum blues often causes a break in mother-child interaction, and disrupts the attention and guidance needed by the baby to develop properly. 10-15% of mothers who

give birth experience this disorder and almost 90% of them do not know about postpartum blues (14).

## MATERIALS AND METHODS

This study is an observational-analytical study with across-sectional approach. This study analyzed factors associated with the risk of baby blues in mothers with a history of complications during childbirth (15). Conducted in the postpartum room of SK Lerik Hospital, Kupang, East Nusa Tenggara. Sampling was done by accidental sampling method where the sample and sample size were taken based on the deadline for data collection, namely mothers who visited the postpartum period 1-14 days at SK Lerik Hospital in April-June 2022. A total of 219 postpartum women became respondents in this study. The inclusion criteria in this study were mothers in the postpartum period 1-14 days who had previously given birth at SK Lerik Hospital, Willing to be a respondent, Mother whose baby is still alive, either by normal process or by cesarean section. Further inclusion criteria were that postpartum women must also be able to read and write. While the exclusion

criteria in this study were mothers who gave birth to aborted babies or mothers who gave birth to stillbirths. Data were collected through interviews and questionnaires given to mothers about the characteristics of respondents and research variables including age, parity, type of delivery, education level, occupation, family income, access to health services, husband support, and social support. Data regarding the diagnosis of baby blues was taken using a standardized questionnaire and tested for validity and reliability. Measurement of baby blues diagnosis using the PASS (Perinatal Anxiety Screening Scale) questionnaire.

## RESULTS AND DISCUSSION

### RESULTS

The results of the univariate analysis of the variables of this study were the age of the mother, the mother's parity, the type of delivery, the mother's education level, the mother's type of work, the family's monthly income, access to health services, husband's support and social support. The results of the analysis can be seen through the variable frequency distribution table below :

**Table 1. Results of univariate analysis of risk factors for baby blues syndrome symptoms in postpartum mothers at SK Lerik Kupang Hospital, East Nusa Tenggara.**

| Characteristics | Frequency | Percentage (%) |
|-----------------|-----------|----------------|
| Age             |           |                |
| <25 years       | 96        | 43.8           |
| ≥25 years       | 123       | 56.2           |
| Parity          |           |                |
| Primiparous     | 122       | 55.7           |
| Multiparous     | 97        | 44.3           |

|                               |     |      |
|-------------------------------|-----|------|
| Type of Labor                 |     |      |
| Sectio caesarea (SC)          | 150 | 68.5 |
| Normal                        | 69  | 31.5 |
| Education Level               |     |      |
| Low                           | 122 | 55.7 |
| High                          | 97  | 44.3 |
| Jobs                          |     |      |
| Housewife                     | 117 | 53.4 |
| Career woman                  | 102 | 46.6 |
| Family Salary                 |     |      |
| Low (<Regional Minimum Wage)  | 107 | 48.9 |
| High (≥Regional Minimum Wage) | 112 | 51.1 |
| Access to Health Care Centers |     |      |
| Far(<4 km)                    | 154 | 70.3 |
| Near(≥4 km)                   | 65  | 29.7 |
| Support from Husband          |     |      |
| Less                          | 148 | 67.6 |
| Good                          | 71  | 32.4 |
| Social Support                |     |      |
| Less                          | 118 | 53.9 |
| Good                          | 101 | 46.1 |

Notes: Lower education level < Bachelor's degree; Higher education level ≥ Bachelor's degree; Kupang City Regional Minimum Wage in 2022 is Rp 1,975,000.

The results of bivariate analysis of research variables are to determine the relationship of each independent variable to the dependent variable. Bivariate analysis was performed using a cross table and statistical tests using simple logistic

regression to analyze the relationship of each independent variable to the dependent variable. The results of the analysis can be seen in the **Table 2**.

In the **Table 3**, it can be concluded that the factors that can affect the occurrence of

**Table 2. Results of bivariate analysis of risk factors for baby blues syndrome symptoms in postpartum mothers at SK Lerik Kupang Hospital, East Nusa Tenggara.**

| Characteristics | Postpartum blues risk |      |     |      | Total |     |
|-----------------|-----------------------|------|-----|------|-------|-----|
|                 | High                  |      | Low |      | f     | %   |
|                 | f                     | %    | f   | %    |       |     |
| Age             |                       |      |     |      |       |     |
| <25 tahun       | 21                    | 21.9 | 75  | 78.1 | 96    | 100 |
| ≥25 tahun       | 49                    | 39.8 | 74  | 60.2 | 123   | 100 |
| Parity          |                       |      |     |      |       |     |
| Primiparous     | 31                    | 25.4 | 91  | 74.6 | 122   | 100 |
| Multiparous     | 39                    | 40.2 | 58  | 59.7 | 97    | 100 |

|                                     |    |      |     |      |     |     |
|-------------------------------------|----|------|-----|------|-----|-----|
| Type of Labor                       |    |      |     |      |     |     |
| Sectio caesarea (SC)                | 26 | 17.3 | 124 | 82.7 | 150 | 100 |
| Normal                              | 44 | 63.8 | 25  | 36.2 | 69  | 100 |
| Education Level                     |    |      |     |      |     |     |
| Low                                 | 23 | 18.9 | 99  | 81.1 | 122 | 100 |
| High                                | 47 | 48.5 | 50  | 51.5 | 97  | 100 |
| Jobs                                |    |      |     |      |     |     |
| Housewife                           | 20 | 17.1 | 97  | 82.9 | 117 | 100 |
| Career woman                        | 50 | 49   | 52  | 51   | 102 | 100 |
| Family Salary                       |    |      |     |      |     |     |
| Low(<Regional Minimum Wage)         | 19 | 17.8 | 88  | 82.2 | 107 | 100 |
| High( $\geq$ Regional Minimum Wage) | 51 | 45.5 | 61  | 54.4 | 112 | 100 |
| Access to Health Care Centers       |    |      |     |      |     |     |
| Far(<4 km)                          | 49 | 31.8 | 105 | 68.2 | 154 | 100 |
| Near( $\geq$ 4 km)                  | 21 | 32.3 | 44  | 67.7 | 65  | 100 |
| <b>Support from Husband</b>         |    |      |     |      |     |     |
| Less                                | 10 | 6.8  | 138 | 93.2 | 148 | 100 |
| Good                                | 60 | 84.5 | 11  | 15.5 | 71  | 100 |
| <b>Social Support</b>               |    |      |     |      |     |     |
| Less                                | 18 | 15.3 | 100 | 84.7 | 118 | 100 |
| Good                                | 52 | 51.5 | 49  | 48.5 | 101 | 100 |

Notes: Lower education level < Bachelor's degree; Higher education level  $\geq$  Bachelor's degree;  
Kupang City Regional Minimum Wage in 2022 amounted to Rp 1,975,000.

**Table 3. Results of multivariate analysis of risk factors for baby blues syndrome symptoms in postpartum mothers at SK Lerik Kupang Hospital, East Nusa Tenggara**

| Characteristics      | OR     | SE    | CI(95%)          | P      |
|----------------------|--------|-------|------------------|--------|
| Age                  | 1.239  | 0.97  | 0.516 - 23.090   | 0.201  |
| Parity               | -0.591 | 0.943 | 0.087 - 3.516    | 0.531  |
| Type of Labor        | 2.18   | 0.685 | 2.310 - 33.851   | 0.001* |
| Education Level      | 0.579  | 0.708 | 0.0445 - 7.151   | 0.413  |
| Jobs                 | 2.398  | 0.844 | 2.105 - 57.498   | 0.004* |
| Family Sallary       | 1.897  | 0.749 | 1.539 - 28.927   | 0.011* |
| Support from Husband | 5.379  | 0.395 | 34.639 - 1.354E3 | 0.000* |
| Social Support       | 1.881  | 0.675 | 1.1747 - 24.653  | 0.005* |

postpartum blues are type of labor ( $p=0.001$ ), mother's occupation ( $p=0.004$ ), family income ( $p=0.011$ ), husband's support ( $p=0.000$ ), family support ( $p=0.000$ ), and social support ( $p=0.005$ ).

## DISCUSSION

Based on **Table 1**, it can be seen that more than half of the respondents are over 25 years old, namely 123 people (56.2%). More than half of the respondents were primiparas

who had just experienced their first birth, namely 122 people (55.7%). More than half of the respondents gave birth by caesarean section, namely 150 people (68.5%). Based on education level, more than half of the respondents had a low education level ( $\leq$ SMA), namely 122 people (55.7%). Based on the type of work, more than half of the respondents did not work (housewives), namely 117 people (53.4%). In terms of family income per month, more than half of the respondents had an income equal to and/or above the UMR (Regional Minimum Wage) of Kupang City, namely 112 people (57.1%) (**Table 1**). Table 1 also shows that the distance between respondents' homes and health care facilities (having mental health services) is more than half the distance ( $\geq$ 4 km), namely 154 people (70.3%). Meanwhile, when viewed from the support in under going the postpartum period, more than half are still classified as lacking support from their husbands, namely 148 people (67.6%) and more than half are still classified as lacking support. Social support from people around 118 people (53.9%). Based on postpartum blues risk data in **Table 1**, it is known that more than half (68%) of mothers have a high risk of experiencing postpartum blues.

Based on **Table 2**, shows that age, parity, type of delivery, education level, occupation, family income, husband's support, and social support were associated with the risk of postpartum blues, and these results were statistically significant. Meanwhile, access to health services did not

have a significant relationship with the risk of postpartum blues. The results of multivariate analysis of the variables of this study are to determine the relationship of all variables to the dependent variable. Multivariate analysis was performed using statistical tests using multiple logistic regression to analyze the relationship of all independent variables that had a p value  $<0.025$  on the dependent variable.

Based on **Table 3**, Anxiety, sadness, fear and stress experienced by postpartum mothers after childbirth are often considered normal and even tend to be underestimated, especially for new mothers who because they have no experience are considered harmless, short-lived and can cause death. overcome over time. In fact, all symptoms of sadness are closely related to mental health, called baby blues syndrome or postpartum blues, which if not treated immediately can lead to depression. Symptoms of post partum blues are initially characterized by a more moody mood, crying easily, often feeling excessive anxiety, sleep disturbances, irritability, and appetite disorders. According to WHO data, postpartum mood disorders are most common (30-75%), and these symptoms appear on the 3rd or 4th day after child birth, and can disappear within a few days without requiring special treatment. However, not all mothers can overcome this mood problem after giving birth, if the mother cannot restrain herself at this critical time, it is possible that postpartum depression will develop into postpartum depression which can endanger

her and her baby, even the most severe is the thought of suicide or killing her baby. Suicide or killing her baby. This study showed that as many as 149 mothers with a high risk of giving birth experienced postpartum blues (68%). Mothers with a high risk of giving birth must be born in a hospital under the supervision of an obstetrician, whether it is a normal birth or a cesarean section. After going through the grueling process of giving birth, the mother must then quickly adapt to the changes that occur in her body and adapt to be able to care for her baby, this may make the mother experience symptoms of postpartum blues.

Postpartum blues experienced by mothers does not only appear during the postpartum period. Long before, the postpartum mother had actually experienced things that made her experience postpartum blues when the postpartum period arrived. Based on Handayani, et al. 2021 postpartum blues occurs because the mother fails to adapt to changes in her life style during pregnancy, labor and postpartum. This study shows that mothers at risk of postpartum blues are mothers with Sectio Caesarea (SC) delivery and this result is statistically significant (16). Postpartum mothers, both those who give birth normally and SC, certainly experience major body changes, especially related to postpartum pain which causes the mother's movement space to be limited, difficult and painful (17). The high risk of postpartum blues is more likely to occur in mothers who give birth by sectio caesarea because the labor pain felt by the mother is

much more intense and severe compared to mothers who give birth normally, especially if coupled with the mother's bad experience during the delivery process. Postpartum mothers who are unable to adapt to changes in their bodies can cause themselves stress because in addition to having to take care of themselves after giving birth, they also have to take care of the baby they have just given birth to. If this cannot be handled properly, it is not impossible that the mother will experience postpartum blues and depression (18).

The results of this study are also in line with research conducted by Banasiewicz et al. (2020); Urbanová, Škodová and Bašková (2021); Putri and Putri (2022) that complications during childbirth, bad experiences during childbirth, a history of difficult childbirth and premature birth can increase the risk of postpartum blues (19). Similarly, research conducted by Grissbook point (2022), mothers with a history of cesarean delivery that was performed suddenly and not planned in advance increased the risk of postpartum blues by 0.47. Cesarean delivery with complications can increase the occurrence of postpartum blues symptoms. Housewives also had an increased risk of postpartum blues, and this result was statistically significant ( $p=0.004$ ). Housewives who have just given birth to a baby sometimes still cannot fully escape from household chores while having to take care of themselves and their newborn baby. A mother who takes care of all her own household affairs makes her postpartum journey even



harder because she suddenly gets a double burden (20). This can increase fatigue, helplessness and trigger stress in the mother, especially if the mother does not get full social support from her husband and family after giving birth. In their research also proved the same thing, that mothers who only work at home taking care of their children can experience crisis situations and reach emotional disturbances or feelings of sadness because of the boredom and fatigue they feel, this is what can increase the risk of postpartum blues (21).

Mothers with low family income also have a high risk of experiencing postpartum blues. The results showed that mothers with low family income had a 1.8 times higher risk of experiencing postpartum blues than mothers living in families with high income and this result was statistically significant. We identified that mothers with low income are at risk of experiencing postpartum blues symptoms because they have higher anxiety related to meeting the needs and care of the baby, as well as meeting the needs of the family (22). The risk of developing postpartum blues and postpartum depression symptoms may be increased in low-income mothers, especially those with a history of delivering babies admitted to the NICU. Research conducted by Okunola et al. (2021) also showed that high family income can reduce the risk of postpartum blues symptoms (23). Mothers with higher family income are less likely to experience anxiety or depression during the postpartum period because family

income determines the health of postpartum women both physically and mentally (24).

Husband support in accompanying mothers during the postpartum period greatly affects the mental health of mothers, the results of this study show that the risk of postpartum blues increases 5.4 times greater in mothers who lack husband support (25). In this study, most mothers lacked family support and this contributed to an increased risk of postpartum blues symptoms and this was statistically significant. During the postpartum period, mothers really need help from their husbands as the closest person to the mother, especially if during childbirth the mother experiences complications (26). Husbands who help a lot in terms of taking care of the baby, helping with household chores, even helping to meet the needs of mothers in the postpartum period, as well as providing emotional support to mothers are the things that can make mothers feel happy so that this can prevent postpartum blues (27). In addition to support from the husband, social support from the people closest to the mother, such as family, neighbors and the mother's friendship environment as well as support from the community around the mother.

This study proved that lack of social support can increase the risk of postpartum blues up to 1.8 times and this result is statistically significant (28). Social support is the most powerful thing and becomes the main determinant of a person's attitude and

behavior, especially when the mother is in a transitional period such as in the postpartum period (29). The results of this study are also in line with research who conducted research on the postpartum period in Surakarta City, that postpartum mothers who received good support from their closest family had a more pleasant postpartum experience so that it could reduce the risk of depression. Family support is one of the factors that can have an impact on the incidence of postpartum blues in postpartum women who give birth in hospitals, besides that things that can make mothers experience postpartum blues are fatigue and lack of support from husbands (30). Finally, that baby blues syndrome is the most vulnerable thing to happen to postpartum mothers. This should not be underestimated, as it can trigger postpartum depression which is very dangerous for both the mother and the baby. Many factors can trigger the occurrence of baby blues syndrome, but the most important thing is to ensure that the mother is always happy during pregnancy until the postpartum period so that the mother feels comfortable carrying out her role despite unavoidable physical and hormonal changes.

#### **CONCLUSION AND RECOMMENDATION**

Factors that can increase the risk of baby blues syndrome in mothers with a history of childbirth complications are mothers who undergo cesarean section, housewives, mothers whose household income is less than the Regional Minimum

Wage (UMR), and mothers who do not get support from their husbands, and do not receive social support from family, neighbors, and friends and the surrounding community. The researchers would like to thank STIKes Maranatha Kupang NTT for their full support both morally and materially for the smooth running of this research. We would also like to thank RSUD SK Lerik for the research permit that has been given. Finally, we would like to thank all respondents involved in this study.

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