Maternal Factors Influencing Postpartum Depression in Indonesia

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Abstract

The estimated prevalence of postpartum depression differs in developed and developing countries. Due to the increasing number of cases in developing countries like Indonesia, postpartum depression has become a serious issue. This study aimed to identify factors influencing postpartum depression in Bandar Lampung City, Indonesia, in 2023 using the Edinburgh Postnatal Depression Scale instrument. This study employed a cross-sectional design with a sample size of 251 respondents, selected based on inclusion and exclusion criteria using a purposive sampling technique. The multiple logistic regression results indicated that women with abortion records had a three times higher risk (95% CI = 1.394–7.648; p-value = 0.013) of experiencing postpartum depression after controlling for other variables (record of depression, employment status, education, and family support). Postpartum women should be followed by midwives and given regular assistance from their loved ones, such as their spouse or family, to prevent depression. These experts can monitor the mother's well-being and share information on maternal and infant health.

Keywords: depression, Edinburgh Postnatal Depression Scale, postpartum

Introduction

Maternal mental health is a biopsychosocial state frequently brought on by a variety of stressors.[1] Mental health means a state of entire bodily, psychological, and social well-being, not just the absence of illness, incapacity, and weakness.[1] Mental health illnesses include anxiety, depression, bipolar disorder, obsessive-compulsive disorder, post-traumatic stress disorder, and psychosis.[1] Feelings of melancholy, a lack of interest or pleasure, guilt, low self-esteem, disturbed sleep or appetite, exhaustion, and poor concentration are all signs of depression.[1]

Mothers often suffer from depression or other mental health conditions caused by hormonal changes during pregnancy and postpartum.[2] The changes involve a significant decrease in estrogen and progesterone hormone levels, leading to emotional instability in postpartum mothers.[2] The changes that pregnant women experience at different phases of pregnancy affect their mental health; therefore, they are more susceptible to mental health issues.[3] During their pregnancy and after giving birth, nearly one in five pregnant women have mental health issues.[3] Psychological health disorders throughout pregnancy and after delivery increase the risks of premature birth, low birth weight, and impaired fetal development.[3,4]

Beginning with conception, the mother's mental health affects the child's development. Prenatal and postnatal mental health difficulties can be the start of later mental health problems in the mother's life, according to studies in the field of prenatal mental health that concentrate on prevalent mental disorders, such as depression and anxiety.[5] Age, education, occupation, financial situation, breastfeeding, family support, maternal and child health, social connections, and psychological background are a few aspects affecting maternal mental health.[6]

Postpartum depression is a type of stress-related depression in postpartum women; it ranges in severity from the mildest, known as baby blues syndrome, to the most severe, known as postpartum psychosis.[7,8] According to the 2018 Indonesian Basic Health Research report, 6.1% of Indonesians over the age of 15 reported having depression.[9] As a result, 700 people had depression overall.[9] Following delivery, over 80% of women experience

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depression, characterized by sad and erratic emotions occurring between two to 14 days later.[10]

The Indonesian Ministry of Health's Family Health program has recorded an increase in maternal deaths, compared to 4,627 maternal deaths in 2020, there were 7,389 maternal deaths in Indonesia in 2021.[11] In Bandar Lampung City, Indonesia, mental health issues have not received adequate attention from many parties, especially spouses and families. Lack of prior childbearing experience or never having given birth are some causes of postpartum depression.[8] A record of prior depression, social support, obstetric characteristics (such as cesarean section or instrument-assisted birth), and demographic factors affect postpartum depression.[8]

Due to their large populations and high fertility rates, emerging countries require early diagnosis and treatment.[12] The husband and family supports, the economic and employment situations, and the cultural aspects of childbirth are external variables that might cause postpartum depression.[13] Age, records of complications, occupation, finances, the support of the spouse, and marital problems are all factors found to be associated with postpartum depression.[14] Husbands are the first to express their wives love, support, and affection, assuring them of their bodily and spiritual safety.[15] Therefore, this study aimed to identify factors influencing postpartum depression in Bandar Lampung City in 2023 using the Edinburgh Postnatal Depression Scale (EPDS) instrument.

Method

This quantitative study used a cross-sectional design. From February to May 2023, six practicing midwives in Bandar Lampung City participated in this study, with a relatively large number of deliveries compared to other midwives. Since the population size was unknown, the sample size was calculated using the Lemeshow formula, which required a minimum sample size of 119.3. This study utilized a sample consisting of 251 respondents. The participants were selected using a purposive sample technique with standard inclusion and exclusion criteria to find postpartum mothers who fit the study needs (mothers who were 2–8 weeks postpartum).

The most used postpartum depression screening method is EPDS.[3] The EPDS questionnaire's total score, which runs from 0 to 30, was used to determine the likelihood that depression would occur. Postpartum depression was diagnosed in mothers receiving a score of >9 on the EPDS questionnaire; while, postpartum depression was not suspected in those receiving a score of 9. The EPDS is a tool designed to measure postpartum mothers' levels of depression; it enables the early detection of mothers who are assumably depressed.[3] The EPDS questionnaire has been validated in various countries, making its usage more reliable. This instrument can play a preventive role in managing mental health disorders in postpartum mothers.[3,5,15]

By asking the mothers about 19 questions and analyzing how the fathers responded and helped their wives during the postpartum period, the study also evaluated the supports of the husband and the family. The husband support for his wife during pregnancy, childbirth, and postpartum was evaluated in various ways, including informational, emotional, practical, and evaluative assistance.[16] To sustain the mother's health and psychological well-being, which may change after giving birth for the first time or subsequent times, the husband's support is essential during pregnancy and after.[17]

Validity and reliability tests were conducted at the midwifery practice in Lampung Selatan District, Indonesia, for the variables of age, parity, record of depression, record of abortion, employment status, education, husband support, and other family support items. Univariate analysis, bivariate analysis using the Chi-squared test, and multivariate analysis were all used in the data analysis. The percentage of univariate variables was explained via frequency distribution analysis. The Chi-squared test was used in bivariate analysis due to the unconditional nature of the data being analyzed. It was employed to establish the relationship between the dependent and independent variables. Multiple logistic regression was employed in the multivariate analysis to predict risk factors and determine the most influential variables on postpartum depression after controlling for other variables.

Results

Based on the information in Table 1, 19.1% of mothers are either under 20 or over 35 years old. Concerning the parity, 170 mothers (67.7%) had ≥2

Table 1. Frequency Distribution of Participant's Characteristics (n = 251)

Variable	Category	n	%
Age	20–35 years	203	80.9
	<20 and >35 years	48	19.1
Parity	≥2 child	170	67.7
	<2 child	81	32.3
Education	Elementary education	68	27.1
	Middle education	144	57.4
	Higher education	39	15.5
Employment status	Unemployed	210	83.7
	Employed	41	16.3
Record of abortion	No	213	84.9
	Yes	38	15.1
Record of depression	No	245	97.6
	Yes	6	2.4
Husband support	Yes	195	77.7
	No	56	22.3
Family support	Yes	183	72.9
	No	68	27.1

Table 2. Relationship between Maternal Characteristics and Postpartum Depression (n = 251)

Variable	Category	Postpartum Depression						p-value	OR (95% CI)
		Yes		No		Total			
		n	%	n	%	n	%		
Age	<20 and >35 years	43	89.60	5	10.40	48	100	0.809	1.263 (0.459–3.480)
	20–35 years	177	87.20	26	12.80	203	100		
Parity	1–2	147	87.50	21	12.50	168	100	1.000	0.959 (0.429–2.142)
	>2	73	88	10	12	83	100		
Record of abortion	No	192	90.10	21	9.90	213	100	0.013	3.265 (1.394–7.648)
	Yes	28	73.70	10	26.30	38	100		
Record of depression	No	216	88.20	29	11.80	245	100	0.162	3.724 (0.653–21.241)
	Yes	4	66.70	2	33.30	6	100		
Employment status	Unemployed	186	88.60	24	11.40	210	100	0.306	1.596 (0.637–3.995)
	Employed	34	82.90	7	17.10	41	100		
Education	Elementary education	56	82.40	12	17.60	68	100	0.299	-
	Middle education	129	89.60	15	10.40	144	100		
	Higher education	35	89.70	4	10.30	39	100		
Husband support	Yes	172	88.20	23	11.80	195	100	0.646	1.246 (0.524–2.962)
	No	48	85.70	8	14.30	56	100		
Family support	Yes	165	90.20	18	9.80	183	100	0.054	2.167 (0.997–4.707)
	No	55	80.90	13	19.10	68	100		

Notes: OR = Odd Ratio, CI = Confidence Interval

children; while, 81 mothers (32.3%) had <2 children. Furthermore, Table 1 shows that 144 postpartum women (57.4%) have secondary education, which makes up the biggest percentage of postpartum mothers' education level. Most mothers in Bandar Lampung City had secondary education.

For the employment status, 210 (83.7%) and 41 (16.3%) of the respondents were unemployed and employed mothers, respectively. In the table above, 15% of the women had a record of abortion. The number of mothers previously diagnosed with depression was 6 (2.4%), while 245 (97.6%) did not. According to this study, postpartum women with a record of depression were less common than those without one.

The study on the frequency distribution of the variable "husband support" revealed that, of the 251 respondents, 77.70% of postpartum mothers had their husbands' support; while, 22.30% of postpartum mothers did not. In terms of the variable "family support," the findings of the frequency distribution analysis revealed that 72.9% of the mothers received help from their families, whereas 27.1% did not.

According to this study's findings, the risk factor of maternal age was not linked to the prevalence of postpartum depression because there were relatively few mothers under the age of 20 and over 35, and the number of respondents reported experiencing depression was only 31—a small number when compared to the study's total of 251 respondents. The Chi-squared test for statistical analysis produced a p-value of 0.013, less than 0.05. These results suggested an association between past abor-

Table 3. Multiple Logistic Regression of Maternal Characteristics

Variable	OR	95% CI	p-value
History of abortion	3.037	1.26–7.317	0.013
History of depression	2.927	0.435–19.684	0.269
Employment status	1.891	0.694–5.153	0.213
Education	0.652	0.35–1.212	0.176
Family support	1.949	0.868–4.379	0.106

Notes: OR = Odd Ratio, CI = Confidence Interval

tions by mothers and the prevalence of postpartum depression in Bandar Lampung City. However, there was no significant association between the incidence of postpartum depression in Bandar Lampung City and a prior record of depression; according to the statistical analysis using the Chi-squared test, the result's p-value was <0.05 (Table 2).

In this study, from the bivariate variables of age, parity, record of depression, record of abortion, education, employment status, husband support, and family support included in the multivariate modeling, record of abortion had the greatest influence. The odds ratio (OR) for past abortions was 3.037 (95% CI = 1.26-7.317), and the p-value for this variable was 0.013, according to the statistical analysis findings based on Table 3 of the multivariate modeling. In comparison to other variables, the variable "record of abortion" indicated a 3.037 times higher likelihood of having depression.

Discussion

This study revealed that there were still mothers giv-

ing birth at unsafe ages, especially after the age of 35, which was considered to be a high-risk age. It is recommended to get married at age ≥20 years, as advised by the National Family Planning Coordination Board.[13] The results of this study were in contrast with several recent studies indicating a connection between postpartum depression and age because getting married under the age of 20 or over 35 makes individuals vulnerable to emotional instability.[14] Other recent studies indicate that mothers aged 20-35 are more susceptible to developing depression.[13,18] It is recommended to maintain a healthy lifestyle and get sufficient rest if pregnancy and childbirth occur at a risky age to protect the mother and child health.

However, this study also contradicted recent findings that discovered a substantial correlation between parity and incidence of postpartum depression; the results of this study do not indicate a relationship between parity and postpartum depression occurrence.[17] Due to potential emotional instability that may increase the risk of complications during childbirth, resulting in feelings of fear, anxiety, and even depression, women expecting their first child and those who have given birth more than three times are particularly vulnerable to postpartum depression.[19] Compared to women who have not previously experienced depression, women who have previously suffered from depression are more likely to be diagnosed with postpartum depression.[20] Previous depression might be treated with counseling, medication, or a mix of the two. Brain stimulation therapy, such as electroconvulsive therapy, might be considered if conventional treatments do not reduce symptoms.[21]

Compared to mothers who have never had an abortion, postpartum women with a record of abortion had a 3.265 times higher likelihood of being diagnosed with depression. This result is consistent with a previous study that points to a strong link between a record of abortion and the onset of postpartum depression.[22] Multiple miscarriages and losses can have an emotional toll on a woman's mental health and preparation, which can result in emotions of fear and anxiety.[23]

Additionally, the statistical analysis of the Chi-squared test indicated no connection between education level and the prevalence of postpartum depression in Bandar Lampung City. This finding conflicts with previous study showing a connection between a maternal education and the prevalence of postpartum depression.[23]

There was no statistically significant association between employment status and the prevalence of postpartum depression in Bandar Lampung City, according to the statistical analysis of the chi-squared test. This result contradicted a previous study that claims a connection between the maternal employment status and the likelihood of depression.[14] Overworked mothers may experi-

ence emotional instability and struggle to manage their lives.[22]

In terms of the husband support, the statistical analysis using the Chi-squared test revealed no connection between the incidence of postpartum depression and the husband's support. This finding conflicted with another study that pointed to a link between the incidence of postpartum depression and support from the husband.[16] Support from a partner helps lessen postpartum depression; it is a protective factor for postpartum depression and is thought to lower the incidence of postpartum depression while improving women's laboring experiences.[16] So far, there might not have been any government programs regarding spousal support for postpartum mothers. However, it is advisable for husbands always to accompany and support the postpartum mother's health.[16,17]

Furthermore, the statistical analysis of the Chi-squared test revealed no connection between the prevalence of postpartum depression and family support. This finding runs counter to a previous study that suggested that postpartum depression is correlated with family support.[17] Women who do not receive support from their families—whether through care or assistance—are more susceptible to postpartum depression than those who do.[23]

Prior studies have demonstrated that mothers with several miscarriages may find it challenging to conceive, and the number of children they bear also depends on how long it has been since their previous pregnancies. Additionally, several mothers who have previously struggled with depression may do so due to prior abortion experiences. Mothers with low levels of education will lack knowledge of the risks associated with a history of abortion, which may worsen postpartum depression. It has been demonstrated that a woman is more likely to have depression during subsequent pregnancies and childbirths if she has a record of abortion or miscarriage experiences. These emotional ordeals can have severe impacts on a woman. As a result, these women might experience worry and anxiety during subsequent pregnancies and deliveries.[24,25]

Postpartum depression risk is increased by symptoms like pain from the curettage procedure of a miscarriage, which can engender feelings of trauma and anxiety.[26] Husbands and families should do a lot more to help wives with a record of abortion. Postpartum mothers should ideally receive extra attention from their families, and their partners should be by their side during every activity. Indeed, it is important not to let postpartum mothers feel like they are struggling alone.

A previous study has also shown that one of biggest risk factors for mothers developing postpartum depression is a record of abortion. Abortion can result in emo-

tional responses like sadness that impact one's physical well-being and increase the likelihood of postpartum depression.[27] It should be emphasized that depression and anxiety during pregnancy can result in miscarriages.[28] Employed women are more likely to miscarry because of the multiple activities and jobs they carry out, which causes exhaustion that might affect the health of the growing fetus and, as a result, increase the likelihood of miscarriage.[27]

Conclusion

Postpartum depression is a mental health condition that affects new mothers and brought on by various reasons. A record of abortion is linked to the development of postpartum depression. Additionally, multivariate analysis reveals that the most important risk factor for postpartum depression is a record of abortion, age, parity, education, record of depression, employment status, and family support considered confounding factors. Postpartum women deserve support from their loved ones, such as their spouses or relatives, and they need to be with midwives who can keep an eye on their health and provide information on maternal and newborn health, thus preserving their mental health in the future.

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