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Review Article

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Postpartum blues reviewed by the risk factors in Indonesia

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1 Abstract

Background: Postpartum blues are known as postpartum sadness that could initiate a more serious mental disorder. It causes a decrease in the mother's interest in her baby, failure to breastfeed, to acts of hurting the baby and themself. Knowing the determinant factors of postpartum blues as a prevention effort is necessary. Therefore, this review aims to assess the factors contributing to postpartum blues, especially in Indonesian mothers.

Methods: A review of all peer-reviewed journal-published studies on postpartum blues and its risk factors among Indonesian mothers from 2012 - 2022. The following databases were searched; Google scholars; SpringerLink; and science direct on September 2022 using the keywords "postpartum blues", "maternal blues", "baby blues", "risk factors", and "Indonesia".

Results: Fifteen studies were included in this review. Risk factors that contribute to the occurrence of postpartum blues are age, salary, education, employment, breastfeeding process, health education after labor, type of labor, labor induction and labor complications, parity, pregnancy status, mother readiness, labor readiness, marriage satisfaction, husband support, and social support.

Conclusion: Women with low socioeconomic Status (SES) and primiparous births have a greater risk of suffering from postpartum blues. Therefore, it is necessary to provide psychological assistance to health workers to the mother after giving birth.

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Keywords: Postpartum Blues, Maternal Blues, Postpartum Depression, Risk Factors, Indonesia

Background

Postpartum mothers need adjustments after giving birth, both physically and mentally. Some mothers may feel frustrated because they feel incompetent and unable to control the situation [1]. The unsuccessful adjustment made by women to physical, physiological, and psychological changes, including changes in the role of a mother with a newborn, will tend to lead women to have emotional problems [2]. Postpartum blues or baby blues, or maternity blues are known as postpartum sadness that occurs 14 days after delivery, initiating a more severe mental disorder, namely postpartum depression, if not handled properly [3]. Mood lability in the first 14 days of the puerperium is associated with psychiatric symptoms and is the strongest predictor of subsequent psychopathology [4]. The incidence of baby blues or postpartum blues varies between 30% - 75%, usually occurring on the third or fourth day after

birth. Postpartum psychosis, the most serious condition, usually appears 48-72 hours after birth and lasts up to two weeks. Postpartum blues that are not handled properly can cause postpartum depression, experienced by 13% of women who give birth. In general, postpartum depression appears in the first four weeks after delivery and can last up to six months [5]. Postpartum blues has a fairly high incidence worldwide. According to WHO, the prevalence reaches 26-85% of births [6]. The incidence of postpartum blues in Indonesia ranges from 50-70% of all postpartum mothers, while the prevalence of postpartum depression is 2.32% (440/18,937), and the majority occurs in urban women [7]. Mothers who experience deep post-delivery sadness experience reduced interest in their babies, are less able to recognize the baby's needs, and may even continue to refuse to breastfeed their babies to the point of hurting them and themselves [8]. Postpartum blues also contribute to the failure of exclusive breastfeeding, especially for women with low socioeconomic status [9]. Based on the explanation above, it is necessary to know the factors that can contribute to the emergence of postpartum blues to prevent and improve

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maternal and child health status. The study aimed to review the risk factors for postpartum blues in Indonesia.

Methods

Study design

A cross-sectional web-based study was conducted between a comprehensive review of the peer-reviewed published literature was conducted through several search engines: Google scholar, SpringerLink; and ScienceDirect in September 2022 with the keywords "postpartum blues", "maternal blues", "baby blues", "risk factors", and "Indonesia".

Inclusion and Exclusion criteria

The inclusion criteria in the selection of articles were the articles published from 2012 through 2022; original studies about postpartum blues published in peer-reviewed journals; focus on prevalence and/ or risk factors for postpartum blues; and published in English and Bahasa Indonesia.

The scoring at least five on the methodological assessment criteria based on hierarchies of evidence and critical appraisal checklist by [10], which has been developed by [11-12]. The criteria points assessed are as follows: i.) clear study aims; ii.) adequate sample size or justification; iii.) representative sample (with justification); iv.) clear inclusion and exclusion criteria; v.) validity measurement of mental health; vi.) the rate reported and losses response; vii.) clear data description, viii.) appropriate statistical analysis, ix.) appropriate informed consent. The cut of point 5 refers to the previous study [13]. This assessment is mentioned below in Table 1.

The exclusion criteria included the bachelor and/or magister and/or doctoral thesis and books; studies about treatment methods or interventions; studies about biological and genetic risk factors; studies about postpartum depression prevalence and/or risk factors; review studies; qualitative design study; and descriptive study. The literature search process to review risk factors for postpartum blues in Indonesia can be seen in Figure 1.

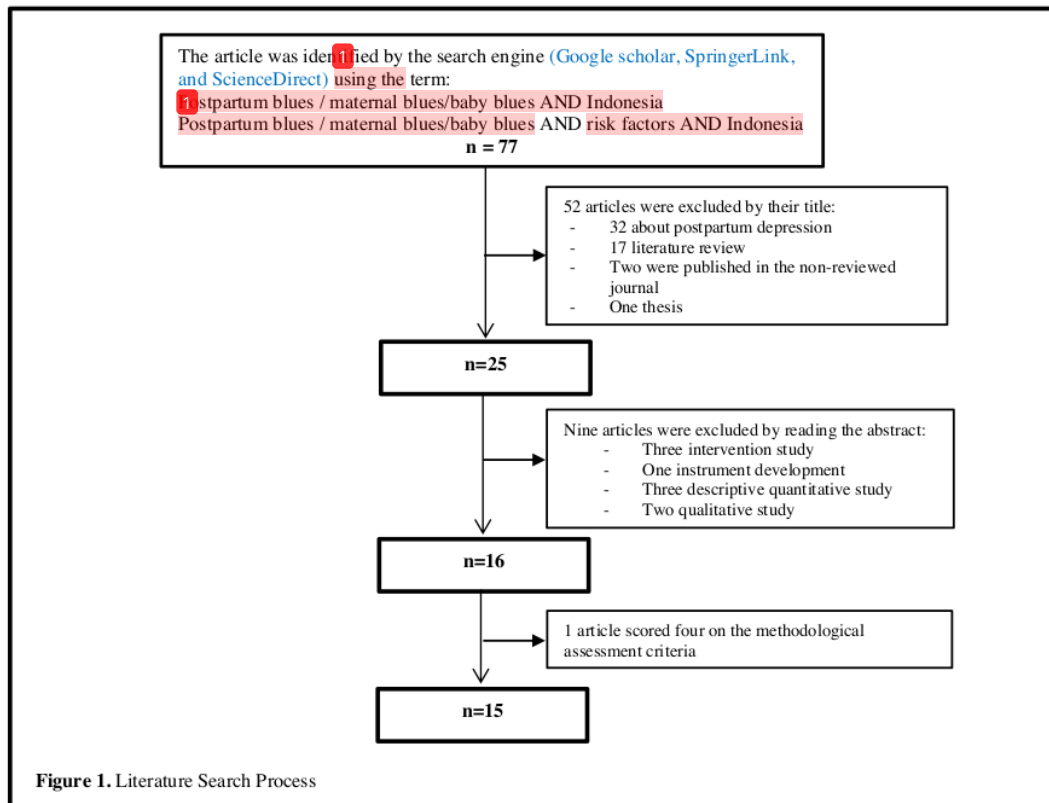


Figure 1. Literature Search Process

Results

The total number of studies that fulfill the criteria for review in this article was 15 studies described in Table 1. The longest published time of the articles reviewed was 2015, while the most recent was published in 2022. There are three articles published in 2022 in this study. Of these, most of the studies were conducted on Java Island, and only three were conducted

outside the Island of Java, namely Sumatra Island, precisely in the provinces of Riau and Bengkulu. Moreover, 9 out of 15 studies used the Public Health Center (PHC) to recruit informants, only one study chose to recruit mothers from the general and maternal clinic, and the rest used the hospital as a setting, both general hospital, and maternal child hospital.

Table 1. The methodological assessment criteria (1 = yes, 0 = no)

Study and year	Title (in English)	clear study aims	adequate sample size	representative sample	clear inclusion and exclusion criteria	validity measurement	the rate reported and losses response	clear data description	appropriate statistical analysis	appropriate informed consent	Total score
Supawati, et al (2018) [14]	Relationship Between Successful Exportation of Breastfeeding with the Case of Postpartum Blues in The Trusmi Public Health Center Coverage Area, Klalen City	1	1	1	1	1	0	1	1	0	7
Fitrah, et al (2017) [15]	Relationship between Husband's Support with the Case of Postpartum Blues in The Payung Sekaki Public Health Center Coverage Area of Pekanbaru City 2017	1	1	1	0	0	0	1	1	0	5
Fatmawati (2015) [16]	Risk Factors that Influence Postpartum Blues Cases	1	1	1	0	1	0	1	1	0	6
Oknaputrining, et al (2017) [17]	Post-Partum Blues: The Importance of Social Support and Marital Satisfaction in Primiparous Mothers	1	1	1	1	1	0	1	1	0	7
Harianis et al. (2022) [18]	Analysis of Affecting Factors of Postpartum Blues	1	1	1	0	1	0	1	1	0	6
Kurniawati, et al (2022) [19]	Determinants of Postpartum Blues in Indonesia	1	1	1	1	1	0	1	1	1	8
Oonita, et al (2021) [6]	Analysis of The Risk Factors of The Postpartum Blues in The Wijaya Kusuma	1	1	1	0	0	0	1	1	0	5
Susanti, et al. (2017) [20]	Analysis of Causes Factors of Baby Blues Syndrome on Postpartum Mother	1	1	1	0	1	0	1	1	0	6
Purnaningrum, et al (2018) [21]	Young Age Pregnancy and Postpartum Blues Incidences	1	1	1	1	1	0	1	1	0	7
Marwiyah, et al (2022) [22]	Determinant Factors of Postpartum Blues in Postnatal Mother	1	1	1	0	1	0	1	1	0	6
Pramudianti (2018) [23]	Relationship between age of postnatal women with postpartum blues	1	1	1	1	1	0	1	1	0	7
Susilawati, et al (2020) [24]	Factors Influencing the Post-Partum Blues Incidence at Gadjah Mada University Academic Hospital	1	1	1	1	1	0	1	1	0	7
Rosalinna, et al (2022) [25]	Impact of Delivery Complications on Prolactal Feeding, Postpartum Blues, and Postpartum Depression	1	1	1	1	1	0	1	1	1	8
Sari, et al (2020) [26]	Analysis Risk Factors Incidence of Postpartum Blues in Public Health Center of Rejang Lebong District	1	1	1	0	1	0	1	1	0	6
Vidayati, et al (2021) [27]	Determinant Factors Associated with Incidence of Postpartum Blues in one of Primary General and Maternity Clinics in East Java, Indonesia	1	1	1	1	0	0	1	1	0	6

The variation in the number of participants involved in the study showed that 14 studies had a sample of fewer than 100 respondents, and only one study had a sample of 330 respondents [19]. The number of respondents in each study is described in Table 2. The sampling technique used was dominated by non-probability sampling, namely purposive sampling, used mainly through 5 studies [14,18,19,21,23], followed by consecutive sampling by two studies [15,22], and accidental also by two studies [6,16]. Lastly, saturated sampling by 1 study is the same as total sampling also by 1 study [17,26]. The probability sampling technique was only used by four studies, namely simple random sampling by two studies [24,27] and cluster random sampling by two studies [20,25]. The number of non-probability sampling techniques and the small sampling size hindered the generalization of the result.

The study design approach that was widely used was cross-sectional; only one study was known to use a prospective cohort [25].

The majority of the study observed the prevalence of postpartum blues only during the postnatal period (not more than 40 days postpartum); one study [25] with a prospective cohort design observed it three times, namely, during delivery, a few hours after delivery, and 40 days postnatally, while the other two studies namely [16,23] did not report the time of investigation carried out (only mention on the postpartum period). The enforcement of postpartum blues cases using Edinburgh Postnatal Depression Scale (EPDS) tools was carried out by 11 out of 15 studies; the rest did not report the tools used [6,14,15,27]. Lastly, two studies did not show the postpartum blues prevalence [16,22], four studies reported cases of postpartum blues occurring in more than 50% of the respondents [20,24,26,27], and nine studies found the prevalence of postpartum blues to be less than 50% namely [6,14-19,21,23,25]. This information can be seen in Table 2.

Table 2. Summary of the included studies

Study and year	City, Province	No. of participants	Recruitment setting	Study design	Tools used	Time of investigation	Prevalence [95% CI]
Suparwati, et al (2018) [14]	Klaten, Central Java	48	Trucuk II Public Health Center	Cross-sectional		3-10 days postpartum	44.2%
Fitrah, et al (2017) [15]	Pekanbaru, Riau	45	Sekaki Public Health Center Coverage Area	Cross-sectional		40 days postpartum	26,7%
Fatmawati (2015) [16]	Yogyakarta, Special Region of Yogyakarta	80	All Public Health Centers in Yogyakarta city	Cross-sectional	EPDS		46%
Oktaputring, et al (2017) [17]	Madiun, East Java	35	3 Public Health Centers & 1 maternal hospital	Cross-sectional	EPDS	3-14 days of postpartum	
Harianis, et al. (2022) [18]	Inhil, Riau	73	Tembilahan Hulu and Gajah Mada Public Health Center	Cross-sectional	EPDS	1-7 days of postpartum	24.7%
Kurniawati, et al (2022) [19]	Jember, East Java	330	Balung Hospital	Cross-sectional	EPDS	0-6 months postpartum	42.7%
Qonita, et al (2021) [6]	Serang, Banten	97	Dr. Drajat Prawiranegara Hospital	Cross-sectional		0-6 months postpartum	24.7%
Susanti, et al. (2017) [20]	Boyolali, Central Java	72	Maternal and Child Hospital Umia Barokah	Cross-sectional	EPDS	Two days – 3 wk postpartum	91.7%
Purnamaningrum, et al (2018) [21]	Gunungkidul, Special Region of Yogyakarta	90	Wonosari General Hospital	Cross-sectional	EPDS	6-14 days postpartum	44.1%
Marwiyah, et al (2022) [22]	Pandeglang, West Java	68	Jiput Public Health Center	Cross-sectional	EPDS	4-14 days postpartum	
Pramudianti (2018) [23]	Klaten, Central Java	48	Kalikotes Public Health Center	Cross-sectional	EPDS		50%
Susilawati, et al (2020) [24]	Sleman, Special Region of Yogyakarta	31	UGM Academic Hospital	Cross-sectional	EPDS	0-41 days of postpartum	67.7%
Rosalinna, et al (2022) [25]	Klaten, Central Java	57	Basic Emergency Neonatal Obstetric Services Public Health Center	Prospective cohort	EPDS	During delivery, 72 hours, 7-14 days, Four weeks of postpartum	31.6%
Sari, et al. (2020) [26]	Rejang Lebong, Bengkulu	43	Perumnas Public Health Center working area	Cross-sectional	EPDS	0-40 days postpartum	67.4%
Vidayati, et al (2021) [27]	East Java	36	Primary General and Maternity Clinic	Cross-sectional		1-14 days of postpartum	58.3%

Risk factors of postpartum blues

Risk factors of postpartum blues are classified into four categories: sociodemographic factors, labor and breastfeeding, parity and pregnancy, and marriage and support. Risk factors of postpartum blues are present in Table 3.

Sociodemographic status factors

Age was the most studied sociodemographic factor, as seen in >50% of articles. Many articles make teenage pregnancy (<20 years) the cut point in the age assessment. One article categorizes it based on women's reproductive age, 20-35 years. In this age assessment, it is known that giving birth at the age of <20 years is more at risk for postpartum blues than those with age > 20 years [21,27,28]. It is known that postpartum blues are riskier in pregnancies that occur outside the reproductive age of women [26]. Other sociodemographic factors that are also known to be at risk for postpartum blues are low family income and women's low level of education [19,22,26]. Unemployed women are also known to be a risk factor for postpartum blues [19,24].

Labor and breastfeeding factors

The childbirth factors studied were the type of labor, the induction given during labor, and complications that occurred during labor. Normal labor with doctor's interventions (induction, vacuum, or forceps) and cesarean delivery are more at risk of causing postpartum blues with multiple regression test results $t=2.637$ than naturally normal labor without doctor's interventions [20]. Cesarean section labor has a risk of causing postpartum blues 5.1 times greater than spontaneous labor [21]. The same magnitude (5.1 times higher) also occurs in the type of normal labor with induction compared to natural labor without induction [21]. Postpartum blues are also known to be at higher risk for complicated labor [25]. In addition to the birthing process, the breastfeeding process that is not smooth at the beginning of birth is also a risk factor for postpartum blues [14]. It is known that health education efforts given after giving birth can reduce the occurrence of postpartum blues, with the possibility of postpartum blues occurring 12,750 times in mothers who do not receive health education [18].

Parity and pregnancy factors

Five studies examined the correlation of parity with the incidence of postpartum blues. Four of these studies distinguished parity with the categories of primiparous and multiparous; one study divided it into three categories: primiparous, multiparous, and Grande multiparous. Primiparous parity is a risk factor for postpartum blues, with a 6.686 times greater chance than multiparous [6]. In addition to parity, pregnancy status (planned or unplanned), women's readiness to become mothers (prepared vs. unprepared), and delivery readiness also correlated with the occurrence of postpartum blues [19,20,22].

Marriage and support factors

Support plays an important role in the occurrence of postpartum blues. The support studied consisted of husband and social support and family support. Seven studies assessed husband support that correlated with the occurrence of postpartum blues. Husband's support is a risk factor for postpartum blues, as

shown by a study which states that husbands who don't really support their wives have a 2.44 times greater risk of causing postpartum blues than husbands who fully support their wives [16]. A greater influence is obtained by a study which states that a lack of husband's support can cause postpartum blues 29.777 times greater than a good husband's support [6]. Similar to the husband's support, social support also contributes as a risk factor in the occurrence of postpartum blues [22]. In addition to the support provided by the husband and social, family involvement in taking care of the baby is also a risk factor for the occurrence of postpartum blues, with 8.114 times the possibility to occur in mothers with families who are not involved in taking care of the baby [18]. In addition to the assessment of support, a study on marital satisfaction, which is composed of several aspects: aspects of intimacy, harmony, sexual life, conflict resolution, and religiosity perceived by primiparous mothers, shows that satisfaction is correlated with postpartum blues [17].

Discussion

This review involves 15 articles that study the postpartum blues in Indonesia, 12 of which are located on the island of Java as a study setting. Java Island is the center of economic activity, education, and health, with Indonesia's largest and most developed population [29]. In this review, the risk factors of postpartum blues are classified into several sub-topics: sociodemography, labor and breastfeeding, parity and pregnancy, marriage, and support.

Sociodemographic status factors

One of the most studied sociodemographic factors is age. In this review, it is known that teenage pregnancy is also a risk factor for postpartum blues. Teenage pregnancy is a global phenomenon with well-known causes, seriously affecting physical and mental health and socioeconomic consequences for individuals, families, and communities [30]. It is imminent that adolescent girls are unable to make a healthy and safe transition into adulthood. These developmental changes place especially for adolescent mothers at increased risk of developing depression [31-32]. Such findings are strengthened by the sentimental situation of parents is known to correlate with teenage pregnancy [33]. Thus, making them more vulnerable group to suffering postnatal stress than adult mothers [32]. This raises the need for intervention in pregnant women at a young age by involving health stakeholders to provide postpartum counseling and infant care [21]. Being part of the sociodemographic factor, low Socioeconomic Status (SES) factors are also a risk factor for the incidence of postpartum blues. Low SES has been reported to be associated with increased depressive symptoms in late pregnancy and 2-3 months postpartum. Along with other low sociodemographic factors, namely: low monthly income; low level of education; unmarried; and unemployed, were 11 times more likely than women without the SES risk factor to have an elevated depression score at three months postpartum [34]. The maternal aspect of low SES, which consists of educational level, unemployment, and income, is correlated with postpartum anxiety and depression [35]. Furthermore, low SES increased the adverse effects of prior negative life events.

Table 3. Risk Factors of Postpartum Blues

Variables	Study	Associated Factors	Analysis test Results
Sociodemographic Factors			
Age	Fatmawati (2015) [16]	≤ 20 years vs > 20 years	Chi-square test P=0.000 OR 3.41, 95% CI [2.129 – 5.469]
	Kurniawati, et al (2022) [19]		Chi-square test P=0.002
	Purnamaningrum, et al (2018) [21]	≤ 20 years vs > 20 years	Logistic regression test P=0.042 PR 4.0 95% CI [1.0 – 15.2]
	Marwiyah, et al (2022) [22]		Multiple regression test t= -1.940
	Pramudianti (2018) [23]		Chi-square test P=0.001 OR 5.75, 95% CI [1.53 – 21.64]
	Susilawati, et al (2020) [24]		Chi-square test P=0.03
	Sari, et al. (2020) [26]	< 20 years, 20-35 years, > 35 years	Chi-square test P=0.038
	Vidayati, et al (2021) [27]	≤ 20 years vs > 20 years	Chi-square test P=0.026
Salary	Kurniawati, et al (2022) [19]	<IDR 2.000.000 vs >IDR 2.000.000	Chi-square test P=0.032
	Marwiyah, et al (2022) [22]		Multiple regression test t= -0.987
Education	Kurniawati, et al (2022) [19]		Chi-square test P=0.001
	Sari, et al. (2020) [26]		Chi-square test P=0.000
Employment	Kurniawati, et al (2022) [19]		Chi-square test P=0.042
	Susilawati, et al (2020) [24]		Chi-square test P=0.03
Labor and Breastfeeding			
Breastfeeding Process	Suparwati, et al (2018) [14]	Smooth vs. not smooth	Chi-square test p=0.001
Health Education after Delivery	Harianis, et al. (2022) [18]	get an education vs. not getting an education	Chi-square test P=0.001 OR 12.750, 95% CI [3.225 – 50.40]
Type of Labor	Kurniawati, et al (2022) [19]	Sectio secarea vs normal	Chi-square test P=0.0001
	Susanti, et al. (2017) [20]	Normal naturally vs. normal with doctor action (induction, vacuum, forceps) vs. Sectio Cesarea	Multiple regression test P=0.010 t= 2.637
	Purnamaningrum, et al (2018) [21]	Sectio secarea vs. spontaneous	Chi-square test P=0.003 OR 5.1, 95% CI [1.7 – 15.3]
	Marwiyah, et al (2022) [22]	Sectio secarea vs normal	Multiple regression test t= -0.427
Labor induction	Purnamaningrum, et al (2018) [21]		Chi-square test P=0.004 OR 5.1, 95% CI [1.6 – 15.7]
Labor complication	Rosalinna, et al (2022) [25]		Chi-square test P=0.01
Parity and Pregnancy			
Parity	Fatmawati (2015) [16]	Primiparous vs Multiparous	Chi-square test P=0.007 OR 1.94 95% CI [1.162 – 3.242]
	Qonita, et al (2021) [6]	Primiparous vs Multiparous	Chi-square test OR 3.844, 95% CI [1.644 – 27.184]
	Susilawati, et al (2020) [24]	Primiparous vs Multiparous	Chi-square test P=0.02
	Sari, et al (2020) [26]	Primiparous vs Multiparous	Chi-square test P=0.021
	Vidayati, et al (2021) [27]	Primiparous vs Multiparous vs Grande Multiparous	Chi-square test P=0.037
Pregnancy Status	Kurniawati, et al (2022)	Planned vs. unplanned	Chi-square test

	[19]		P=0.009
Mother Readiness	Susanti, et al. (2017) [20]	Ready vs. Unready	Multiple regression test P=0.036 t = 2.142
Labor Readiness	Marwiyah, et al (2022) [22]		Multiple regression test t = -0.283
Marriage and supports			
Marriage satisfaction	Oktaputrining, et al (2017) [17]		Multiple regression test t=-2.755 partial correlation= -0.438 p=0.010 (p<0.05)
Husband Support	Fitrah, et al. (2017) [15]	Good vs. not good	Chi-square test P=0.000
	Fatmawati (2015) [16]	Medium vs. high	Chi-square test P=0.000 OR 2.44, 95% CI [1.564 – 3.818]
	Kurniawati, et al (2022) [19]	Good vs bad	Chi-square test P=0.003
	Qonita, et al. (2021) [6]	Less vs. good	Chi-square test OR 29.777, 95% CI [2.679 – 330.941]
	Susanti, et al. (2017) [20]	Less vs. good	Multiple regression test t = 3.491 P=0.001
	Sari, et al. (2020) [26]	Support vs. not support	Chi-square test P=0.013
	Vidayati, et al (2021) [27]	Support vs not support	Chi-square test P=0.049
Social Support	Marwiyah, et al (2022) [22]		Multiple regression test t= 1.072 p<0.05
Family involvement in taking care of the baby	Harianis, et al. (2022) [18]	Engaged vs. uninvolved	Chi-square test P=0.003 OR 8.114, 95% CI [2.020 – 32.59]

In terms of employment, it is known that it may be a protective factor for postpartum depression symptomatology in mothers who work part-time and full-time [36]. Since 12 of the 15 articles in this review conducted their research on the Island of Java, which is the economic center of Indonesia, so the estimated economic burden for mothers who are classified as having low SES in this study can be different from mothers who live outside Java Island. This condition is a limitation of this study. Compared to women with SES advantages, mothers with low SES experienced poorer mental and overall health. However, statistically, mothers with advantages of SES and low SES found no difference in the need for physical and mental health care, help with household chores, and breastfeeding support. The difference that is not surprising is that there is a greater need for mothers with low SES for financial assistance. Acceptance of public health offers at-home visits is twice as much accepted by mothers with low SES [37].

Labor and breastfeeding factors

Several studies have reported that cesarean section labor is more at risk for postpartum blues than vaginal labor [21,38,39]. This is in accordance with the findings in this review that cesarean delivery and induced vaginal delivery are more at risk for postpartum blues than natural vaginal births. This risk is related to the mother's birth satisfaction. Where birth satisfaction is significantly lower seen in the group of mothers who gave birth with surgical delivery compared to mothers with vaginal delivery. The presence of medical interventions, cesarean sections, and various other surgical interventions during childbirth is a predictor of low birth satisfaction [38]. Induction during childbirth is also a risk factor for postpartum

blues because induction has been shown to increase the pain felt by the mother. Experiencing pain causes anxiety and fear in the mother about the success of the intervention. Maternal anxiety and possible complications in both the baby and the mother contribute to the postpartum blues [40]. Some mothers show symptoms of postpartum blues because they are triggered by a cesarean delivery for medical reasons. This is because of the consequences of unthinkable financial burdens, negative views from others because they can't give birth normally, feelings of not being a full mother, and surgical incisions that hinder daily activities [41]. In this review, it is known that the breastfeeding process that does not run smoothly in early birth is a risk for postpartum blues. The same thing was conveyed by the findings that exclusive breastfeeding at six months postpartum had a lower risk of depression than those who adopted other feeding patterns, regardless of feeding pattern or duration, mothers who maintained eye contact and talked to their infants while breastfeeding had a lower risk of postpartum depression than mothers who engaged in other activities [42]. The association between breastfeeding and depression may also be the other way. Around 37% of babies with late initiation breastfeeding (LIBF) were born to depressed pregnant women, while those born to non-depressed pregnant women were only 8.4% [43]. Therefore, postpartum partner social support and strong breastfeeding intention were positively related to breastfeeding self-efficacy (BSE) [44]. This BSE is very important, considering that breastfeeding promotes hormonal processes that can protect the mother from postpartum depression by weakening the cortisol response to stress. It also reduces mother anxiety by helping to regulate sleep and wake patterns for

mother and baby and also increases the emotional bond between mother and baby [45].

Parity and pregnancy factors

In this review, it was found that primiparous parity is a risk factor for postpartum blues. Mothers with only one child were rated as less experienced in infant care and role transition changes compared to mothers with two or three children [46]. The low adaptability in primiparous women causes them to be overwhelmed, while the situation requires her to adapt quickly because there is a baby to take care of. Not infrequently, this situation causes the mother to experience physical exhaustion, which causes her to be reluctant to take care of her baby [47]. Primiparous women differ from multiparous women in breastfeeding, insecurity, and anxiety. Primiparous were twice as likely as multiparous to experience anxiety and depression during the first week and six weeks after delivery [48]. In addition, the possibility of complications such as hypertension, intrauterine growth retardation, premature labor, fetal distress, and oligohydramnios is also higher primiparous [49]. Therefore, grand multiparous parity is a protective factor against the risk of postpartum depression [50]. Pregnancy status is also a risk for postpartum blues. Unplanned pregnancies have long-term effects on women's mental health in the perinatal period [51]. The prevalence of postpartum blues was found to be higher in women with unplanned pregnancies, where factors causing unwanted pregnancies such as young age; non-white race; unmarried, and anxiety during pregnancy were also associated with postpartum blues [52]. When viewed from their SES, postpartum mothers with unplanned pregnancies who experience postpartum depression are more common in low- and lower-middle-income countries and minority groups who experience disadvantaged SES compared to those who enjoy better SES conditions [53]. Postpartum stress experienced by unplanned pregnancies increased significantly at nine months postpartum. Thus, women with unplanned pregnancies, although currently in stable partnerships, receive many benefits from postnatal care by health professionals, especially those with limited support [54].

Marriage and supports factors

The support received by postpartum mothers also contributes to the occurrence of postpartum blues. The support can come from social, family, and husband. The study from [55] showed that mothers who gave birth at a young age and received social support did not experience postpartum blues. Social support has an effect on minimizing the occurrence of postpartum blues and reducing it. Social support given to mothers can be in the form of attention, communication, and warm emotional relationships. The encouragement that has been given by friends who have given birth also reduces the postpartum pain felt by the mother. However, social and family support that is too high can put pressure on postpartum mothers. Excessive attention from the family, especially the baby's grandmother, makes postpartum mothers uncomfortable taking care of their babies, so they feel less involved in caring for their own babies [17]. The excessive family expansion also makes postpartum mothers think about building their own household with their husbands and children in the house they live alone (separated from their parents) [41].

Among the support given by others, the support that is most expected by mothers, especially primiparas, is the support that comes from their husbands. Husband's support is correlated with marriage satisfaction felt by postpartum mothers. Marriage is shown in the behavior of the husband, who often helps his wife in caring for the baby in the breastfeeding process, and helps create a positive atmosphere when the wife feels the tiring days at the beginning of the birth. This support gives its own strength, especially at the birth of the first child [17]. The mother feels that her duties and responsibilities in baby care are absolute, so she does not want to complain to others so that the husband's special treatment as a breastfeeding father and caring for the baby can prevent the mother from postpartum blues [41,56].

Conclusion

In conclusion, published articles on postpartum blues in Indonesia found several risk factors for postpartum blues, including SES factors consisting of age, salary, education, and employment. Labor and breastfeeding factors consist of: the breastfeeding process, health education after labor, type of labor, labor induction, and labor complications. Parity and pregnancy factors consist of parity, pregnancy status, mother readiness, and labor readiness. Marriage and support factors consist of: marriage satisfaction, husband support, and social support. Psychological assistance from health workers is needed for mothers who have just given birth, especially in primiparous births.

Abbreviation

AD: After Christ; HIV: Human Immunodeficiency Virus; BSE: Breastfeeding Self-efficacy; EPDS: Edinburgh Postnatal Depression Scale; LIBF: Late Initiation Breastfeeding; OR: Odds Ratio; PHC: Public Health Center; SES: Socio-economic Status

Declaration

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Availability of data and materials

Data will be available by emailing fitriana.utami@ikm.uad.ac.id.

Authors' contributions

Fitriana Putri Utami (FPU) contributed in the study concept and design, formal analysis, writing-original draft preparation, writing-review, and editing. Desi Nurfiti (DN) contributed in the study concept and design, writing-review and editing. All authors approved the final manuscript.

Ethics approval and consent to participate

We conducted the research following the Declaration of Helsinki. The protocol was approved by the Ethics Committee of Universitas Ahmad Dahlan with a reference number of 012207100 on September 06, 2022.

Consent for publication

Not applicable

Competing interest

The authors declare that they have no competing interest.

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