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Research

Social Determinants in Association with Postpartum Blues during the Transition Period of COVID-19 Pandemic

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ABSTRACT

Background: The COVID-19 pandemic has considerably impacted individuals' lives, extensively from mental and socioeconomic aspects, that requires someone to adapt. For postpartum mothers who also need to go through the maternal psychological adaptation phase, the pandemic could impose overwhelming emotional tension on them, increasing the risk of experiencing postpartum blues. This study aims to analyze the relationship between social factors that are affected during a pandemic with the incidence of postpartum blues on screening test results during the transition period of the COVID-19 pandemic in Banyumanik, Semarang.
Subjects and Method: This was a cross-sectional study conducted in Banyumanik, Semarang, from November to December 2022. 39 subjects were selected using a consecutive sampling technique. The dependent variable is postpartum blues. The independent variables include marital status, employment status of the mother, employment status of the spouse, and family income level. The study instrument was EPDS questionnaire. The data were analyzed used Chi-square.
Results: Out of 39 subjects, 13 (33.3%) were experiencing postpartum blues, and 26 (66.7%) were not experiencing it. Mother's employment status associated with postpartum blues. Mothers who unemployed have a risk of experiencing postpartum blues 1.65 times compared to employed, but these were not statistically significant (OR= 1.65; 95% CI= 0.40 to 6.77; p= 0.727). Family income level associated with postpartum blues. Mothers with low to moderate family income reduced postpartum blues by 0.73 times compared to mothers with high income levels, but these were not statistically significant (OR= 0.73; 95%CI= 0.19 to 2.80; p= 0.908). Meanwhile, marital status and spouse employment status were not related to the incidence of postpartum blues.
Conclusion: Mother's employment status and family income status associated with postpartum blues. Meanwhile, marital status and spouse employment status were not related to the incidence of postpartum blues.

Keywords: social factors, postpartum blues, screening test results, COVID-19 pandemic.

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BACKGROUND

In March 2020, WHO officially declared Coronavirus Disease-19 (COVID-19) pandemic, and since then, nations worldwide have

launched various kinds of policies to contain the spread of COVID-19. It affects people's lives physically, mentally, emotionally, economically, and considerably more. One of the impacts that are tough to evade from the COVID-19 pandemic is the emergence of mental health problems, including depression (Usmani et al., 2021). In 2022, people still had to deal with the impact of the pandemic. Even though in Indonesia, 2022 was also the first year that the transition from pandemic to endemic started.

Globally, around 280 million people or the equivalent of 3.8% of the total world population, have depressive disorders (WHO, 2021). In 2017, depressive disorder ranks first as a mental health disorder in Indonesia (Institute for Health Metrics and Evaluation, 2020) with a prevalence of 6.1% (Kementerian Kesehatan, 2018). Furthermore, on a global scale, a comparison of the incidence of depression between women and men is quite significant. In women, the incidence percentage is 5.1%, and in men, it is 3.6% (WHO, 2017). Based on these data, women are known to have a higher risk of experiencing depression than men.

Based on the Central Java Province Health Profile provided by Balitbangkes (2018), there were 541,122 women giving birth or undergoing postpartum, reaching 27,968 people in the provincial capital, Semarang City. In postpartum mothers, it is necessary to adapt during the postpartum period because the process of birth creates a series of biological, psychological, and social changes that are new to them. In the process of adapting, postpartum mood disorders can occur, ranging from postpartum blues and postpartum depression to postpartum psychosis (Manjunath, Venkatesh and Rajanna, 2011).

Therefore, postpartum mothers are prone to experiencing mental health problems while dealing with the COVID-19 pandemic, which generally could cause emotional tension (Usmani et al., 2021). In a study by Chen et al. (2022), it was found that the incidence of postpartum depression was found to be higher during the COVID-19 pandemic compared to non-pandemic periods.

Postpartum blues are typical in the perinatal period and refer to a low mood with mild depressive symptoms that are transient (Balaram and Marwaha, 2022). Although relatively mild, postpartum blues could be the early manifestation of postpartum depression to postpartum psychosis (Sharma, 2013). The risk factors associated with postpartum blues are multifactorial (Myo et al., 2021), such as biological, social, and obstetric factors.

Social factors are related to differences in individuals' psychological and social lives, with reciprocal effects (Ministry of Health, 2011). Among the social factors most commonly associated with postpartum blues are marital status (Cameron et al., 2020), family income level (Myo et al., 2021), and employment status during COVID-19 (Usmani et al., 2021).

Since there has been a significant change in socioeconomic aspects during the COVID-19 pandemic, which could interfere with the maternal psychological adaptation process in postpartum mothers, there is a potential for the postpartum mothers to feel emotionally overwhelmed, which eventually leads to the occurrence of postpartum blues.

Therefore, it is essential to use this understanding to research the association between social factors changed during the transition period of the COVID-19 pandemic, with the occurrence of postpartum blues.

SUBJECTS AND METHOD

1. Study Design

The type of research used is an analytic observational study with a cross-sectional design. This study used a questionnaire as the

primary data from subjects and was conducted in Banyumanik, Semarang, in 2022.

2. Population and Sample

The population of this study was postpartum mothers in Banyumanik, Semarang, from November to December 2022. The sample of this study was 39 postpartum mothers in Banyumanik, Semarang, from November to December 2022, who was taken by consecutive sampling method, according to the inclusion and exclusion criteria that the researcher has determined.

3. Study Variables

The dependent variable studied was the incidence of postpartum blues based on the results of the EPDS screening.

The independent variables include marital status, the mother's employment status, the spouse's employment status, and family income level.

4. Operational Definition of Variables

Postpartum blues is a mild affective disorder characterized by the appearance of transient mild depressive symptoms, as a result of physiological, hormonal, and psychological changes at birth, in the period immediately after or within two weeks after delivery, and do not meet criteria for the diagnosis of major depressive disorder.

Marital status is someone's position in marriage relationship.

Employment status is a position or the status of household members (ART) in the main job they have.

Family income level is the total amount of income received by the family members for a certain period as remuneration or factors of production that they contribute in participating in forming national products.

5. Study Instrument

The instruments in this study consisted of a subject characteristic questionnaire and the Edinburgh Postnatal Depression Scale (EPDS) questionnaire. The questionnaire on the subjects' characteristics contains the subject's name, marital status, the mother's employment status, the spouse's employment status, family income level, previous history of major depressive mood disorder, and previous history of postpartum blues. The EPDS questionnaire consists of 10-item questions, with four options provided for each question. The four options provided will be scored ranging from 0-3, representing the degree of severity of symptoms. The total score obtained will be interpreted as "Positive Postpartum Blues" if the total score is above nine and "Negative Postpartum Blues" if the total score is below 9.

6. Data Analysis

The analysis method used in this study are univariate analysis to describe the characteristics of each variable used and bivariate analysis with chi-square to find the relationship of each independent variable to the dependent variable. The chosen significance level (α) is 5% or 0.05. Therefore, a significance value (p-value) above 0.05 will be interpreted as a negative hypothesis, and a significance value (p-value) below 0.05 will be interpreted as a positive hypothesis.

7. Research Ethics

This research has received agreement from several parties, in the form of the subject's informed consent form, the research permit from the Semarang City Health Office, and ethical approval No. 421/ XI/ 2022/ KEPK on 11 November 2022 from the Health Research Ethics Commission, Universitas Pembangunan Nasional Veteran Jakarta.

RESULTS

1. Sample Characteristics

The subjects of this study were 39 postpartum mothers. The frequency distribution for the general characteristics of subjects in this study (Table 1). Table 1 shows that the highest frequency and percentage of subjects were found in subjects aged 20-35 years (31 people; 79.5%), gave birth in November-

December 2022, participated in the study in the range of 1 – 14 days postpartum, and none of them had history of depressive mood disorders or a history of postpartum blues.

Table 1. Characteristics of subjects based on mother's age

Variable	Category	Frequency (n)	Percentage (%)
Mother's Age	< 20 years old	3	7.7
	20 – 35 years old	31	79.5
	> 35 years old	5	12.8
Baby's date of birth	November	30	76.9
	December	9	23.1
Number of days since childbirth	1	1	2.6
	3	2	5.1
	4	4	10.3
	5	1	2.6
	6	3	7.7
	7	4	10.3
	8	2	5.1
	9	1	2.6
	10	1	2.6
	11	3	7.7
	12	3	7.7
	13	3	7.7
	14	11	28.2
History of Depressive Mood Disorders	Yes	0	0
	No	39	100.0
History of Postpartum Blues	Yes	0	0
	No	39	100.0

Table 2. Univariate Analysis

Variable	Category	Frequency (n)	Percentage (%)
Marital Status	Single	0	0
	Married	39	100.0
	Divorced	0	0
	Widow	0	0
Mother's Employment Status	Unemployed	24	61.5
	Employed	15	38.5
Spouse's Employment Status	Unemployed	1	2.6
	Employed	38	97.4
Family Income Level	Low	4	10.3
	Moderate	12	30.8
	High	11	28.2
	Very High	12	30.8
Postpartum Blues	No	26	66.7
	Yes	13	33.3

2. Univariate Analysis

Variables included in this univariate analysis are marital status, the mother's employment status, the spouse's employment status, and family income level (Table 2).

Table 2 shows that the highest frequency and percentage of subjects were found as married (39; 100.0 %), unemployed (24 people; 61.5%) but having a spouse who has employed (38 people; 97.4%), and has a

moderate-income level (IDR 1,500,000 - 2,500,000) and very high (>IDR 3,500,000) (12 people each; 30.8%). Table 2 also shows that more subjects did not experience postpartum blues (26 people; 66.7%) than those who did experience postpartum blues (13 people; 33.3%).

3. Bivariate Analysis

Bivariate analysis in this study was conducted to determine the relationship between marital status, the mother's employment status, the spouse's employment status, and family income level with the incidence of postpartum blues based on screening test results during the transition period of the COVID-19 pandemic (Table 3).

Table 3 shows that mother employment status associated with postpartum blues. Unemployed mothers have a risk of experiencing postpartum blues 1.65 times compared to employed mothers, but these results were not statistically significant (OR= 1.65; 95% CI= 0.40 to 6.77; p= 0.727). Family income level associated with postpartum blues. Mothers with low to moderate family income level reduced postpartum blues by 0.73 times compared to mothers with high family income levels, but these results were not statistically significant (OR= 0.73; 95% CI= 0.19 to 2.80; p= 0.908). Meanwhile, marital status and spouse employment status were not related to the incidence of postpartum blues.

Table 3. Bivariate Analysis Risk Factor Postpartum Blues

Category	Postpartum Blues						OR (95% CI)	p
	No		Yes		Total			
	N	%	N	%	N	%		
Marital Status								
Single	0	0.0	0	0.0	0	0.0	-	-
Married	26	66.7	13	33.3	39	100		
Mother's Employment Status								
Unemployed	15	38.5	9	23.1	24	61.5	1.65 (0.40– 6.77)	0.727
Employed	11	28.2	4	10.3	15	28.5		
Spouse's Employment Status								
Unemployed	1	2.6	0	0.0	1	2.6	-	1.000
Employed	25	64.1	13	33.3	38	97.4		
Family Income Level								
Low- Moderate	10	25.6	6	15.4	16	41.0	0.73	0.908
High-Very High	16	41.0	7	17.9	23	59.0	(0.19 – 2.80)	

DISCUSSION

1. Analysis of the Association of Marital Status to the Incidence of Postpartum Blues

Univariate analysis showed that all subjects (100.0%) are married. As many as 13 people (33.3%) are experiencing postpartum blues, while the other 26 (66.7%) do not. In bivariate analysis with the chi-square test, no p-value was found, which was caused by the absence of variations in subjects' answers. In conclusion, there is no relationship between marital status and the incidence of postpartum blues based on the results of the Edinburgh Postnatal Depression Scale (EPDS) questionnaire screening at health facilities in Banyumanik, Semarang, from November to December 2022.

Findings with similar variables were found in the study of Okunola et al. (2021), stating that there was no relationship between marital status and the incidence of postpartum blues. However, in the study of Myo et al., (2021), it was stated that there was a relationship between marital status

and the incidence of postpartum blues.

Partner support provides emotional stability and psychological comfort. Through this support, postpartum mothers will feel cared for, loved, and valued by others, forming self-confidence and readiness in postpartum mothers to undergo the postpartum period (Rosa et al., 2021). Further research by Renata and Agus (2021) also shows that the level of partner support and the relationship quality influence the incidence of postpartum blues.

2. Analysis of the Association of Mother's Employment Status to the Incidence of Postpartum Blues

The crosstabulation analysis in this variable showed that as many as 13 subjects are experiencing postpartum blues, 9 (23.1%) are unemployed, and 4 (10.3%) are employed. Whereas 26 subjects are not experiencing postpartum blues, 15 (38.5%) are unemployed, and 11 (28.2%) are employed. In bivariate analysis with the chi-square test, a p-value of 0.727 was found (p>0.05). In conclusion, there was no relationship between the mother's employment status and the incidence of postpartum blues based on the results of the Edinburgh Postnatal Depression Scale (EPDS) questionnaire screening in Banyumanik, Semarang, from November to December 2022.

The findings above align with the results of research by Tarisa et al., (2020) and research by Qonita et al. (2021), which stated that there was no relationship between employment status and the incidence of postpartum blues.

A housewife, who undergoes the postpartum period, is usually expected to handle household chores with unlimited working hours. At the same time, they have to be able to upkeep their children and husband. The burden caused by these demands sometimes exceeds their resources, potentially becoming a psychological stressor (Devi and Fouri-analistyawati, 2018), which could lead to postpartum blues. A career woman, who undergoes the postpartum period, is usually faced with a dual-role crisis. They have to fulfill their responsibilities as workers and maintain their status as wives and mothers, which could also be overwhelming and lead to postpartum blues (Tarisa et al., 2020). Despite the possibility of experiencing postpartum blues in each group, the risk will decrease if there is support or a positive manner from partners and family (Qiftiyah, 2018). Partners who cooperate in household affairs affect the wife's happiness. Thus, the findings stating that there is no relationship between self-employment status and the incidence of postpartum blues may be related to this explanation.

The findings above are not aligned with Sepriani (2020), stating that there was a relationship between the mother's employment status and the incidence of postpartum blues, even with a risk of 3.35 times higher.

3. Analysis of the Association of Spouse's Employment Status to the Incidence of Postpartum Blues

The crosstabulation analysis in this variable showed that as many as 13 subjects are experiencing postpartum blues, all of whom had an employed spouse. While the other 26 subjects are not experiencing postpartum blues, 25 (64.1%) had an employed spouse, and 1 (2.6%) had an unemployed spouse. A p-value of 1.000 (p>0.05) was found in bivariate analysis with the alternative Fisher's Exact Test. In conclusion, there was no relationship between the spouse's employment status and the incidence of postpartum blues, based on the results of the Edinburgh Postnatal Depression Scale (EPDS) questionnaire screening in Banyumanik, Semarang, from November to December 2022.

The findings above are not aligned with Eslahi et al. (2021), who stated that the

partner's employment status is indirectly related to the incidence of postpartum blues. The partner's employment status is one predictor of the presence or absence of social support from partners. However, social support in the form of material is not the only form of support that a partner can provide. Other forms of support exist, such as emotional, awards, instrumental, and informative support (Sari and Ansyah, 2016). This is what may underlie the reasons for the researchers' findings which show that there is no relationship between the partner's employment status and the incidence of postpartum blues.

4. Analysis of the Association of Family Income Level to the Incidence of Postpartum Blues

The crosstabulation analysis in this variable showed that as many as 13 subjects are experiencing postpartum blues, 6 (15.4%) from moderate income levels, 3 (7.7%) from high-income levels, 4 (10.3%) from very high-income levels, and none of them had a low-income level.

While 26 subjects are not experiencing postpartum blues, 4 (10.3%) were from low-income levels, 6 (15.4%) were from moderate income levels, 8 (20.5%) were from high-income levels, and 8 (20.5%) %) of very high-income levels. Based on these results, it is known that subjects who came from low-income levels didn't experience postpartum blues. In contrast, subjects who experienced postpartum blues came from moderate to very high-income levels.

A p-value of 0.908 (p>0.05) was found in bivariate analysis with the chi-square test. In conclusion, there was no relationship between family income level and the incidence of postpartum blues, based on the results of the Edinburgh Postnatal Depression Scale (EPDS) questionnaire screening in Banyumanik, Semarang, from November to December 2022.

The findings above are in line with the results of a study by Qonita et al. (2021) which stated that there was no relationship between the economic status of the family and the incidence of postpartum blues. However, the findings above are not aligned with Ria et al. (2018), which stated that there was a direct relationship between the level of family income and the incidence of postpartum blues. The findings above are also not aligned with Tarisa et al. (2020), which stated that there was a significant relationship between the level of income on the incidence of postpartum blues, especially for someone with an income below the District/ City Minimum Wage (UMK) with a risk of 0.417 times higher.

What may underlie the reasons for the researchers' findings which show that there is no relationship between family income levels and the incidence of postpartum blues, is a part of a psychological attribute, which is the mindset. A low-income level gives a higher financial burden, so it can potentially cause stress, including for postpartum mothers. However, someone with a low-income level usually has positive views or feelings concerning their own condition, namely by not complaining, responding normally to a problem, being relaxed, and having problem-focused coping mechanisms rather than emotional-focused ones (Noviawati and Undarwati, 2017), in contrast to the general population of postpartum mothers who rely on emotional-focused coping (Putriarsih et al., 2017). This rationale is also in line with Apriliana, Theresa, and Fitriani (2020), which states that apart from adaptation or coping abilities, stress levels also depend on a person's perception of the situation they are experiencing.

The limitation of this study lies in the limited research location, because the researcher still needs to receive correspondence from the intended location. In con-

clusion, based on primary data collected from 39 postpartum mothers at health facilities in Banyumanik, Semarang (Pudakpayung Health Center, Padangsari Health Center, Srondol Health Center, Ngesrep Health Center), there was no relationship between marital status and the incidence of postpartum blues in the transition period of the COVID-19 pandemic. However, it can be found that the percentage of incidents among subjects with "Married" status was 33.3%. In addition, there is no relationship between the mother's employment status, spouse's employment status, and family income level with the incidence of postpartum blues during the transition period of the COVID-19 pandemic.

It is expected that this finding could give the wisdom to optimize the management of postpartum mood disorder at all levels of health facilities in Indonesia, starting with data dissemination, screening, diagnosis, referral, and treatment in the Psychiatry specialty. Therefore, advocacy for the Indonesian Ministry of Health, as the national stakeholder in the health sector, is essential, considering the results of this study.

AUTHOR CONTRIBUTION

Salwa Tsabitah Althaf Mujab, Ria Maria Theresa, Arman Yurisaldi Saleh, Soroy Lardo established the framework and methodology. Salwa Tsabitah Althaf Mujab collected the data. Salwa Tsabitah Althaf Mujab analyzed the data. Ria Maria Theresa, Arman Yurisaldi Saleh, Soroy Lardo reviewed the paper.

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CONFLICT OF INTERESTS

There is no conflict of interest in this study.

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