OPEN ACCESS

Saudi Journal of Medicine
Abbreviated Key Title: Saudi J Med
ISSN 2518-3389 (Print) | ISSN 2518-3397 (Online)
Scholars Middle East Publishers, Dubai, United Arab Emirates
Journal homepage: https://saudijournals.com

Original Research Article

The Relationship between Education Level and Family Support to the Risk of Postpartum Depression in Kupang City

Nurul Istiqomah[1]*, Sangguana Marthen Jacobus Koamesah[2], Halena Meldy Asa[3], Gottfrieda Patiencia Taeng-Ob Adang[4]

[1]Medical Education Program, Faculty of Medicine and Veterinary Medicine, Universitas Nusa Cendana, Indonesia
[2]Department of Public Health and Community Medicine, Faculty of Medicine and Veterinary Medicine, Universitas Nusa Cendan, Indonesia
[3]Department of Dryland and Archipelagic Medicine, Faculty of Medicine and Veterinary Medicine, Universitas Nusa Cendana, Indonesia
[4]Department of Obstetrics and Gynecology, Faculty of Medicine and Veterinary Medicine, Universitas Nusa Cendana, Indonesia

DOI: https://doi.org/10.36348/sjm.2026.v11i01.008 | **Received:** 20.11.2025 | **Accepted:** 12.01.2026 | **Published:** 21.01.2026

***Corresponding Author:** Nurul Istiqomah
Medical Education Program, Faculty of Medicine and Veterinary Medicine, Universitas Nusa Cendana, Indonesia

Abstract

Background*:** Postpartum depression (PDD) is a psychological condition that commonly occurs after childbirth and can adversely affect maternal health and child development. Factors such as education level and family support may influence the risk of postpartum depression. Education affects a mother's ability to cope with emotional stress, while family support is essential for maintaining psychological well-being. ***Aim*:** To determine the relationship between education level and family support with the risk of postpartum depression in Kupang City. ***Methods: This quantitative cross-sectional study involved 70 postpartum mothers selected through purposive sampling from the working areas of Oebobo and Sikumana Public Health Centers. The Edinburgh Postnatal Depression Scale (EPDS) and Postpartum Social Support Questionnaire (PSSQ) were used. Data were analyzed using univariate, bivariate (Chi-Square), and multivariate (binary logistic regression) analyses. ***Results***: Most respondents had secondary education (50%) and good family support (81.4%). No significant association was found between education level and Postpartum depression risk ($p=0.801$). Family support showed a significant association with PPD risk ($p<0.001$). Multivariate analysis indicated family support as the dominant factor ($p=0.001$; Exp(B)=12.039), while education level was not significant ($p=0.315$; Exp(B)=1.530). ***Conclusion*:** Education level was not associated with PPD risk, whereas family support was significantly associated and served as a dominant protective factor.

Keywords: Education Level, Family Support, Postpartum Depression, Postpartum Mothers, Kupang City.

INTRODUCTION

Giving birth is the most awaited momentum for husbands and wives. After giving birth, mothers will enter a phase of adjustment to their new role as mothers, where motherhood is something that can and must be learned. Pregnancy and postpartum are a period full of emotional stress. The transition period to parenthood requires adjustment and adaptation to the new role, where postpartum mothers in addition to carrying out their duties as wives must also adapt to their new responsibilities as a mother. This adaptation period can last from one week to months.

In the postpartum period, mothers not only experience physical changes, but also psychological changes. These psychological changes can be in the form of changes in feelings or stress caused by changes in habits and reduced freedom in activities. Mothers who are unable to adapt well during this transition period are at risk of experiencing emotional disturbances. Early symptoms such as baby blues can appear in the first week after giving birth. If left untreated, baby blues can develop into postpartum depression, and in certain conditions can continue to postpartum psychosis which is a more severe condition and can harm both mother and child.

The American Psychiatric Association (APA) defines postpartum depression as a mental disorder with a more serious level that can be experienced by

postpartum mothers. Postpartum depression is characterized by more severe and long-lasting symptoms such as sleep disturbances, loss of appetite, poor concentration, refusal to interact with the baby, feeling sad and excessively tired and even suicidal thoughts. Meanwhile, postpartum psychosis is the most severe form of postpartum affective disorder.

Data released by the World Health Organization (WHO) in 2019 shows that 280 million people around the world experience depression, of which 10% are pregnant women while 13% are new mothers. In developing countries, around 10-50% of mothers undergo the postpartum period, meaning that the pregnancy period up to one year after childbirth is estimated to be depressed. Data from 9 the Centers for Disease Control shows that in 2004-2012, the prevalence of postpartum depression was 11.5% from 27 countries. 10 Postpartum depression occurs in about 6.5% to 20% of women, with a higher incidence in young mothers, patients who give birth prematurely as well as those living in urban areas. Based on the 2018 National Basic Health Research, the prevalence of depression in the population aged ≥15 years in East Nusa Tenggara province is 7.7%, with a male prevalence of 4.7% and a higher prevalence of 7.4% in women, which includes postpartum mothers.

Factors that can affect the occurrence of postpartum depression include psychological history, family support factors, social, economic, education level, and pregnancy history. Indirectly, education has an impact on the incidence of 2,5,14 postpartum depression because education can affect thinking patterns. Family support is a form of help from the nearest environment, such as husband, family, relatives and friends, the support that can be provided can be in the form of emotional, informative and instrumental support. The support provided can help postpartum mothers feel able to live their new role as mothers and feel more valued so that they can reduce anxiety in mothers.

By taking into account the prevalence of baby blues which has the potential to increase the risk of postpartum depression among postpartum mothers, this study was conducted to analyze the relationship between education level and family support to the risk of postpartum depression in Kupang City.

METHODOLOGY

This study was an observational analytical study with a cross-sectional approach to assess the relationship between education level and family support and the risk of postpartum depression. The research was carried out in the working area of UPTD Puskesmas Oebobo and UPTD Puskesmas Sikumana, Kupang City, in July-September 2025. This research has received ethical approval from the Ethics Commission of the Faculty of Medicine and Veterinary Medicine, Nusa Cendana University with number 34/UN15.21/KEPK-FKKH/2025.

Samples were selected using purposive sampling methods based on inclusion and exclusion criteria. Inclusion Criteria for postpartum mothers who are willing to be research respondents, mothers give birth within three weeks to eight weeks after childbirth and can read and fill out questionnaires. The Exclusion Criteria include postpartum mothers who have a history of comorbidities such as diabetes, hypertension and other diseases, postpartum mothers who have previously been diagnosed with psychiatric disorders, mothers who are experiencing severe obstetric complications such as postpartum bleeding or preeclampsia. Based on these criteria, 70 postpartum mothers were obtained as a research sample.

The instruments used included the Edinburgh Postnatal Depression Scale (EPDS) to assess the risk of postpartum depression, the Postpartum Social Support Questionnaire (PSSQ) to measure family support, and respondent characteristics sheet. Before the data collection process, the researcher first provides an explanation of the purpose, benefits, and confidentiality of the data to the respondents, then asks for written consent through informed consent.

Data analysis was carried out in this study, namely univariate analysis was used to describe the frequency distribution of respondent characteristics, education level, family support, and postpartum depression risk. Furthermore, bivariate analysis using the Chi-Square test was carried out to determine the relationship between each independent variable, namely the level of education and family support, and the dependent variable, namely the risk of postpartum depression. Then, to see which variables have the most influence on the incidence of postpartum depression, a multivariate analysis was carried out using binary logistic regression.

RESULTS

In this study most of the respondents were >30 years old, namely 38 people (54.3%), followed by the 20–30 year old age group as many as 30 people (42.8%), and only 2 people (2.9%) were <20 years old. The largest number of children were owned by respondents with one child (34 people; 48.6%), followed by two children (26 people; 37.2%). Respondents with three and four children amounted to 4 people each (5.7%), while those with six, and seven children each had only 1 person (1.4%).

Based on employment, the majority of respondents are housewives (44 people; 63%). A total of 10 respondents worked as civil servants (14.3%), 4 were entrepreneurs (5.7%), and 4 were students or students (5.7%). In addition, jobs as lecturers, teachers, midwives, and consultants were found in 1 respondent (1.4%) each.

Table 1: Characteristics of respondents

Features	Frequency (n)	Percentage (%)
Age		
<20	2	2,9
20- 30	30	42,8
>30	38	54,3
Number of Children		
1	34	48,6
2	26	37,2
3	4	5,7
4	4	5,7
6	1	1,4
7	1	1,4
Jobs		
Housewives	44	63
Civil Servants	10	14,3
Lecturer	1	1,4
Guru	4	5,7
Self-employed	4	5,7
Student/Student	4	5,7
Midwives	1	1,4
Consultant	1	1,4
Cleaning Service	1	1,4
Education		
SD	2	2,9
SMP	4	5,7
SMA	35	50,0
Higher Education	29	41,4
Family Support		
There is support	57	81,4
Less support	13	18,6
Total	**70**	**100**

Based on Table 1, it shows that most of the respondents have a secondary education level of 35 people (50%). Respondents with higher education were 29 people (41.4%), respondents with a junior high school education level as many as 4 people (5.7%) and respondents with an elementary school education level as many as 2 people (2.9%). Also the majority of respondents were not at risk of experiencing postpartum depression, namely 50 people (71.4%), while respondents were at risk of 20 people (28.6%). This shows that even though most of the respondents are in a normal psychological state, there is still a significant portion of the risk of postpartum depression.

Bivariate Analysis

Table 2: Analysis of the Relationship between Education Level and Risk of Postpartum Depression

Variable	Education Level								Total		P value
	Elementary School		Junior High School		High school		Hinger Education				
	n	%	n	%	n	%	n	%	n	%	
No risk	2	4	3	6	23	46	22	44	50	100	0,801
There are risks	0	0	1	5	12	60	7	35	20	100	
Total	**2**	**2,6**	**4**	**5,71**	**35**	**50**	**29**	**41**	**70**	**100**	

* Uji Fisher's Exact Test (p < 0,05)

Table 2 shows the distribution of respondents based on the level of education on the risk of postpartum depression in Kupang City. Of the 70 respondents, 50 people (71.4%) were not at risk of experiencing postpartum depression, while 20 people (28.6%) were at risk.

The high school/vocational education group was the largest, namely 23 people (46%) in the non-risk category and 12 people (60%) in the risk category. Higher education was next with 22 people (44%) not at risk and 7 people (35%) at risk. Respondents who graduated from junior high school amounted to 3 people

(6%) who were not at risk and 1 person (5%) were at risk, while elementary school graduates were only 2 people (4%) and all of them were not at risk.

The analysis was then continued with the Fisher's Exact Test which gave a p-value of 0.801 (p > 0.05). Thus, there is no meaningful relationship between education level and the risk of postpartum depression in mothers in Kupang City.

Table 3: Analysis of the relationship between family support and risk of occurrene Postpartum depression

Variable	Family Support				Total		P- value
	There is Support		Lack of Support				
	n	%	n	%	n	%	
No Risk	46	92	4	8	50	100	<0.001
There is a Risk	11	55	9	45	20	100	
Total	**57**	**81**	**13**	**18,6**	**70**	**100**	

*** Chi-Square test (p < 0.05)**

Table 3 shows the distribution of respondents based on family support for the risk of postpartum depression. Of the 70 respondents, 50 people (71.4%) were not at risk and 20 people (28.6%) were at risk of experiencing postpartum depression. In the group with good family support, the majority of respondents were not at risk, 46 people (92%), while 11 people (55%) remained at risk despite receiving support. In the group with less family support, 4 respondents (8%) were not at risk and 9 respondents (45%) were at risk of experiencing postpartum depression.

The results of the Chi-Square test showed a p-value of <0.001 (p < 0.05), indicating a meaningful relationship between family support and the risk of postpartum depression. The better the family support the mother receives after childbirth, the lower the risk of postpartum depression.

Multivariate Analysis

Table 4: Analysis of the Relationship between Education Level and Family Support on Risk of Occurrence Postpartum depression

Independent variables	b	S.E.	Forest	df	p	Exp b	95% C.I for Expβ	
							Lower	Upper
Final education	0,425	0,423	1,011	1	0,315	1,530	0,668	3,503
Family support	2,488	0,758	10,782	1	0,001	12,039	2,726	53,158
konstan	-5,377	1,981	7,368	1	0,007	0,005		

Based on Table 4 the results of binary logistic regression analysis show that family support has a meaningful relationship with the risk of postpartum depression. The family support variable had a significance value of 0.001 (p < 0.05), with a value of Exp(B) = 12.039. This means that respondents with family support are 12 times more likely to experience postpartum depression than respondents with good family support, after controlling for educational variables.

Meanwhile, the education level variable had a significance value of 0.315 (p > 0.05), which indicates no meaningful association with the risk of postpartum depression. The Exp(B) value = 1.530 indicates that mothers with low education are 1.53 times more likely to experience postpartum depression than mothers with higher education, but this result is not statistically significant.

DISSCUTION

The results of the study on the relationship between education level and the risk of postpartum depression showed that education level had no relationship with the risk of postpartum depression (p = 0.801), while family support was shown to be significantly related to the risk of postpartum depression (p <0.001) there was a meaningful relationship between family support and the incidence of postpartum depression. The results of the analysis of the relationship between education level and family support to the risk of postpartum depression showed that education level was not related to the risk of postpartum depression (p=0.315), while family support was significantly related and became the most influential factor in the incidence of postpartum depression (p=0.001; exp(β)=1,530).

Education is considered to be able to provide access to health information, but not all mothers are able to internalize this knowledge into practical skills in dealing with postpartum emotional pressure. Some of the respondents in this study had secondary education, but the knowledge gained through formal education was not always integrated into stress management strategies and mental health care. These findings show that psychosocial factors in the form of family support have a stronger influence on maternal mental health after childbirth than formal education backgrounds.

Education level is often assumed to be an important factor in mental health, especially during the postpartum period. Theoretically, the higher the education level of a mother, the higher the ability to understand health information such as symptoms and how to overcome postpartum depression, think more rationally, and have skills in finding solutions when dealing with postpartum stress [34].

The results of this study are in line with the research of (Putriarsih *et al.,* 2018) in Sukoharjo which reported that education level is not always the main determinant of the onset of postpartum depression, but is more influenced by psychosocial factors and the family environment. Likewise, research conducted by (Arnold-Baker 2019) emphasized that the transition to motherhood is more influenced by emotional support, role identity, and subjective experiences, rather than formal education backgrounds. These findings are also supported by (Anderson *et al.,* 2015) which states that although education can improve health literacy, in the absence of adequate social support, mothers are still at risk of postpartum depression [14].

The results of a study on the relationship between family support and the risk of postpartum depression in Kupang City showed that there was a significant relationship between family support and the risk of postpartum depression ($p<0.001$). The majority of respondents who received good support were not at risk of experiencing postpartum depression, while most respondents who did not receive family support, especially husbands, parents, children, in-laws, and close relatives, played a role as the main protective factor for postpartum maternal mental health. Good family support can help mothers feel accepted, appreciated, and not alone in undergoing the postpartum adaptation process. This form of support can be emotional support, such as paying attention, empathy, and positive encouragement; Instrumental support, such as helping with household chores or caring for the baby, as well as information support, in the form of providing advice or information that helps mothers cope with their new roles. With this support, mothers will feel calmer, have confidence, and be able to manage stress better [16-32].

This result can be explained by the role of the family as the main source of emotional, informative, and instrumental support for mothers. In addition to giving birth, mothers face changes both physically and psychologically, such as fatigue, lack of sleep, feelings of lack of confidence and anxiety in caring for the baby. The presence of family, especially the husband, can provide a sense of security, reduce emotional burden and strengthen the mother's confidence in carrying out her new role, without this support the mother tends to feel alone and vulnerable to depression [34-37].

These findings are in line with research that divides social support into several forms, namely emotional, informational, instrumental and rewarding support. All of these forms of support are very relevant for postpartum mothers. Emotional support in the form of empathy and attention from a husband, nuclear family or close relatives can reduce loneliness. Instrumental support such as help taking care of the baby or housework can reduce the physical burden of the mother after childbirth. Informational support such as giving advice on breastfeeding makes mothers more confident. Then the support of the award in the form of recognition that the mother is able to take care of her baby gives the mother a positive feeling [36, 37].

These findings are also in line with the research of (Manoe *et al.,* 2025) in East Nusa Tenggara which states that family support plays an important role in supporting the mental strength of mothers after childbirth. Emotional, instrumental, and informative support from the family can help mothers feel more confident in caring for their babies, reduce anxiety, and accelerate adaptation to new roles. These results are also strengthened by (Puswati e*t al.*, 2019) who show that the active role of husbands in helping to care for babies and households can reduce the level of psychological stress of mothers [16].

Meltzer-Brody *et al*., (2018) states that postpartum depression is a multifactorial disorder influenced by biological, psychological, and social factors. Postpartum hormonal changes are inevitable, but the negative impact can be minimized if the mother has a strong social support network. With family support, mothers feel more valued, are not alone and have a place to share their emotions so that the risk of depression can be reduced [3].

Based on this study on the relationship between education level and family support to postpartum depression in Kupang City based on the results of binary logistics regression analysis, it is known that the family support variable has a significance value of $p = 0.001$ ($p < 0.05$) with a value of $Exp(\beta) = 12.039$, which means that mothers with less family support are 12 times more likely to experience postpartum depression compared to mothers who receive good family support. Meanwhile, the education level variable showed a significance value of $p = 0.315$ ($p > 0.05$) and $Exp(\beta) = 1.530$, which indicates that there is no relationship between education level and the risk of postpartum depression. These results show that family support plays a more dominant role in influencing maternal mental health than education level.

These findings are consistent with the results of (Putriarsih *et al.,* 2018) which shows that education level is not always the main determinant of the appearance of postpartum depression, because psychosocial factors such as family support have more influence on the emotional stability of postpartum mothers. This is also in line with the research of (Arnold-Bake *et al.,* 2019) which emphasizes that the success of the mother's

adaptation to a new role is more influenced by emotional support and interpersonal relationships than by formal educational background. Anderson *et al.,* in 2015 explained that education can improve health literacy, but without adequate social support, mothers remain at risk of postpartum depression [14].

The role of the family is essential as a source of emotional, informative, and instrumental support in helping mothers adapt to postpartum physical and psychological changes. This support includes attention, empathy, practical assistance in caring for the baby, and appreciation for the mother's ability to carry out her new role. In line with Manoe *et al*., (2025) in East Nusa Tenggara, family support has been shown to help increase confidence, reduce anxiety, and accelerate maternal adaptation to new roles. In addition, research by Puswati *et al*., (2019) also confirmed that the involvement of husbands in providing real help can reduce stress levels and prevent emotional disturbances in postpartum mothers [16].

The results of this study reinforce the view of Meltzer-Brody *et al.,* (2018) who stated that postpartum depression is a multifactorial disorder that is not only caused by biological factors, but also greatly influenced by social and psychological factors. Strong family support can reduce the impact of stress, increase security, and lower the risk of depression in new mothers. On the other hand, higher formal education does not guarantee emotional stability if it is not accompanied by adequate social support. Thus, this study confirms that family support has a significant and protective influence on the incidence of postpartum depression, while education level plays an indirect role through increased knowledge, but is not strong enough without emotional support from the immediate environment [3-15].

Overall, this study shows that family support is a factor that affects the risk of postpartum depression, while education level does not show a meaningful relationship. Education level does have a role in health literacy, but it does not directly affect the risk of postpartum depression. This emphasizes the importance of a family-based approach in the prevention and management of postpartum maternal mental health problems. Nevertheless, education still contributes to increasing knowledge and awareness, but in this study the impact becomes less significant if it is not accompanied by adequate emotional support.

CONCLUTION

In Kupang City, education level was not associated with the risk of postpartum depression, whereas family support showed a significant relationship. Multivariate analysis identified family support as the dominant factor influencing postpartum depression, with mothers receiving poor family support being 12 times more likely to experience postpartum depression compared to those with good support. Although mothers with lower education tended to have a higher risk, this association was not statistically significant. Most respondents had a secondary education level and good family support, and the majority were not at risk of postpartum depression.

Ethical Approval: The study was approved by the Ethics Commission of the Faculty of Medicine and Veterinary Medicine, Nusa Cendana University with number 34/UN15.21/KEPK-FKKH/2025.

REFERENCES

1. Tosto V, Ceccobelli M, Lucarini E, Tortorella A, Gerli S, Parazzini F, et al. Maternity Blues: A Narrative Review. J Pers Med [Internet]. 2023 Jan 13 [cited 2025 May 25];13(1):154.
2. Arienta Sari R. Literature Review: Depresi Postpartum Literature Review: Postpartum Depression [Internet]. Vol. 11, Jurnal Kesehatan. Online; 2020.
3. Meltzer-Brody S, Howard LM, Bergink V, Vigod S, Jones I, Munk-Olsen T, et al. Postpartum psychiatric disorders. Nat Rev Dis Primers. 2018 Apr 26;4(1):18022.
4. Karen Carlson, Saba Mughal, Yusra Azhar, Waquar Siddiqui. Perinatal Depression. In: StatPearls [Internet] [Internet].
5. Bergink V, Rasgon N, Wisner KL. Postpartum Psychosis: Madness, Mania, and Melancholia in Motherhood. American Journal of Psychiatry [Internet]. 2016 Dec 1;173(12):1179–88.
6. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders [Internet]. American Psychiatric Association; 2013. Available from: https://doi.org/10.1176/appi.books.9780890425596
7. American Psychological Association. Postpartum depression: Causes, symptoms, risk factors, and treatment options. 2022 Nov 2;
8. World Health Organization. Depressive disorder (depression). 2023 Mar 31;
9. Ryanawati Putriarsih, Uki Retno Budihastuti, Bhisma Murti. Prevalence and Determinants of Postpartum Depression in Sukoharjo District, Central Java. Journal of Maternal and Child Health [Internet]. 2018 Jan 29 [cited 2025 Mar 5];3(3).
10. Ministry of Health of the Republic of Indonesia. Ministry of Health of the Republic of Indonesia. National Riskesdas Report 2018 [Internet]. Publishing Institution of the Health Research and Development Agency (LPB); 2018. Available from:
11. Ajeng Khalisyah Putri, Mustofa A, Hapsari AN, Nabiila A, Nurissyita AM, Prasetya EC. Faktor Risiko Depresi Pasca Persalinan di Negara-negara Asia Tenggara. Medica Arteriana (Med-Art) [Internet]. 2021 Dec 30;3(2):62.
12. Anderson EA, Kim DR. Psychiatric Consultation to the Postpartum Mother. Curr Psychiatry Rep. 2015 Apr 13;17(4):26.

13. Arnold-Baker C. The Process of Becoming: Maternal Identity in the Transition to Motherhood. Existential Analysis: Journal of The Society for Existensial Analysis. 2019 Jul;30(2).
14. Puswati D, Suci A. The Relationship of Husband Role on Psychological Adaptation Levels of Postpartum Mother in Camar1 Arifin Achmad Hospital Riau Province. KnE Life Sciences. 2019 Mar 12;4(10):103.
15. Sari N, Muhani N, Dewi FNM. Maternal Factors Influencing Postpartum Depression in Indonesia. Kesmas: Jurnal Kesehatan Masyarakat Nasional. 2023 Aug 31;18(3):203.
16. Zahra Putri Maharani. The influence of husband's support on the psychological adaptation of postpartum mothers: A literature review. World Journal of Advanced Research and Reviews [Internet]. 2024 Dec 30;24(3):2603–10.
17. Gopalan P, Spada ML, Shenai N, Brockman I, Keil M, Livingston S, et al. Postpartum Depression-Identifying Risk and Access to Intervention. Curr Psychiatry Rep. 2022 Dec;24(12):889–96.
18. Hopkins J, Campbell SB. Development and validation of a scale to assess social support in the postpartum period. Arch Womens Ment Health. 2008 Feb 3;11(1):57–65.
19. Luthfianto MN, Rahayuningsih FB. Description of Social Support for Postpartum Mothers Comparison of Sectio-Caesarea with Normal Birth in Kartasura Region. Proceeding ISETH (International Summit on Science, Technology, and Humanity) [Internet]. 2023 Mar 29;66–74.
20. Manoe YLT, Kusumiati RYE. Hubungan Antara Dukungan Keluarga dengan Resiliensi pada Ibu yang Pernah Mengalami Baby Blues di NTT. JIIP - Jurnal Ilmiah Ilmu Pendidikan [Internet]. 2025 Mar 3;8(3):2664–71.