



Determinants of Postpartum Depression among Mothers at the Kassi-Kassi Community Health Center

***Rasyif Wildan Djunaidi^{1*}, Jelita Inayah Sari², Abd. Rahman³,
Veraferial Muchtar⁴, Mardan⁵***

^{1,2,3,4}School of Medicine, Faculty of Medicine and Health Science, Universitas Islam Negeri Alauddin Makassar

⁵Department of Hadith Studies, Faculty of Ushuluddin and Philosophy, Universitas Islam Negeri Alauddin Makassar

Email: wildandjunaedi@yahoo.com

Submitted: 13-01-2026

Revised: 09-02-2026

Accepted: 06-03-2026

How to cite: Djunaidi, R., Jelita Inayah Sari, Abd. Rahman, Veraferial Muchtar, & Mardan. (2026). The Relationship Between Age, Education Level, Family Income, and Religiosity in Mothers with Postpartum Depression at the Kassi-Kassi Community Health Center. *Alami Journal (Alauddin Islamic Medical) Journal*, 10(1), 21-27.
<https://doi.org/10.24252/alami.v10i1.64598>

DOI: [10.24252/alami.v10i1.64598](https://doi.org/10.24252/alami.v10i1.64598)

Copyright 2026 ©the Author(s)

This work is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-nc-sa/4.0/).

Abstract

Background: Postpartum depression (PPD) affects approximately one in seven postpartum mothers and may lead to serious complications, including impaired child growth, psychotic disorders, and infanticide if left untreated. Data regarding PPD and its associated factors in South Sulawesi Province remain limited.

Objective: This study aimed to determine the relationship between maternal age, occupation, family income, education level, and religiosity among mothers with postpartum depression.

Methods: This study used a quantitative cross-sectional design. A total of 62 postpartum mothers were selected using a random sampling technique. Data were analyzed using univariate and bivariate analysis. The chi-square test was applied to assess the relationship between independent variables and postpartum depression.

Results: The analysis showed a significant relationship between maternal age and postpartum depression ($p = 0.048$). Religiosity was also significantly associated with postpartum depression ($p = 0.037$). No significant relationship was found between family income and postpartum depression ($p = 0.731$) or between education level and postpartum depression ($p = 0.620$).

Conclusion: Maternal age and religiosity were significantly associated with postpartum depression, while education level and family income showed no significant association.

Keywords: Postpartum Depression, Religiosity, Psychiatry, Psychology

Introduction

One in seven women who give birth may suffer from Postpartum Depression (PPD). Unlike Baby Blues, which tend to resolve quickly, PPD can persist for a longer period and affect a mother's ability to return to normal activities. PPD has been known to be associated with adverse maternal and child outcomes, including impaired child development and disrupted mother-child bonding, and while most undiagnosed patients recover within months, symptoms may persist in about 30% of cases with a recurrence rate of approximately 40%.¹ PPD is a common mental health disorder with a prevalence of 10%–15% in western countries, which usually occurs during the first year after childbirth. A systematic review of 47 studies from 18 low- and lower-middle-income countries reported a prevalence of 18.6%, while a global review of 143 studies from 40 countries demonstrated a wide prevalence range of 0.5% to approximately 60%, influenced by cultural variation, reporting practices, mental health stigma, socioeconomic status, poverty, inadequate social services, poor nutrition, high stress levels, and biological factors.^{2–4} In Southeast Asia, PPD has been reported to affect approximately 11%–30% of mothers.⁵ While the prevalence of PPD in Makassar City is unknown, data from the City Health Office in 2021 showed that the Kassi Kassi Community Health Center recorded the highest number of People with Mental Disorders (PWMD), totaling 202 individuals, with only 3% receiving therapy; this number decreased to 189 in 2022 but remained the highest in the city.

Considering the high prevalence of PWMD in the service area of this Community Health Center and the limited research on PPD in Makassar City, this underscores the importance of identifying this mood disorder and its associated factors.

Methods

This study is a quantitative study employing an observational analytic design with a cross-sectional approach to describe age, educational level, family income, and religiosity among mothers with Postpartum Depression at the Kassi-Kassi Community Health Center. The study population consisted of mothers with postpartum depression residing in the working area of the Kassi-Kassi Community Health Center who had been diagnosed with PPD. The number of mothers with children who met the inclusion criteria was 167. For the sampling technique, the Slovin formula was used, yielding a minimum sample size of 62 participants.

The data source used in this study was primary data collected through the administration of questionnaires, with direct guidance provided by the researcher, who was present alongside the respondents. The data collection instrument was divided into three sections. The first section contained general characteristics of the respondents, with low-risk maternal age defined as between 20 and 35 years old, followed by the second section, the Edinburgh Postnatal Depression Scale (EPDS) questionnaire, which has been translated and is widely used to assess the likelihood of Postpartum Depression. The screened samples were classified as either not depressed (<10 points) or probably depressed (>10 points), as this tool is commonly used for screening purposes only. The third section consisted of the Muslim Religiosity Scale developed by Amir, which was used to measure respondents' religiosity, and was classified as either low (<25 points), moderate (26-38 points), or high (38-52 points).⁶

Hypothesis testing in this study was conducted through data analysis of the study variables, namely postpartum depression and maternal age, educational level, family income, and religiosity. The data analysis techniques employed were univariate and bivariate analyses using the Chi-square test. This study was approved by the Health Research Ethics Committee of Universitas Islam Negeri Alauddin Makassar, with ethical approval number E.063/KEPK/FKIK/111/2023.

Result

Table 1 presents the distribution of the measured variables. Overall, the study population was predominantly within the low-risk maternal age group and had a high level of religiosity. A substantial proportion of respondents screened positive for probable postpartum depression, indicating a notable mental health burden among postpartum mothers in this setting.

Table 1. Characteristics of the Participants

Variable	Category	n	%
Age	High-risk (<20 years & >35 years)	12	19.40
	Low-risk (20–35 years)	50	80.60
Family Income	< RMW (Rp < 3,294,982)	23	37.10
	≥ RMW (Rp ≥ 3,294,982)	39	62.90
Educational Level	< Senior High School	8	12.90
	≥ Senior High School	54	87.10
Postpartum Depression	Not depressed	36	58.10
	Probable depression	26	41.90
Religiosity	Low	0	0.00
	Moderate	3	4.80
	High	59	95.20
Total		62	100

Abbreviations: RMW, *Regional Minimum Wage*; EPDS, *Edinburgh Postnatal Depression Scale*. Data are presented as frequency (n) and percentage (%)

Table 2 below shows the results of the Chi-square test. Maternal age and religiosity level were significantly associated with postpartum depression status, whereas family income and educational level showed no significant associations.

Table 2. Association of Maternal Sociodemographic Factors with Postpartum Depression

Variable	Category	Not Depressed n (%)	Probable Depression n (%)	Total n (%)	p-value
Maternal Age	Low-risk (20–35 years)	26 (41.9)	24 (38.7)	50 (80.6)	0.048
	High-risk (<20 or >35 years)	10 (16.1)	2 (3.2)	12 (19.4)	
Family Income Level	< RMW	14 (22.6)	9 (14.5)	23 (37.1)	0.731
	≥ RMW	22 (35.5)	17 (27.4)	39 (62.9)	
Educational Level	< Senior High School	4 (6.5)	4 (6.5)	8 (12.9)	0.620
	≥ Senior High School	32 (51.6)	22 (35.5)	54 (87.1)	
Religiosity Level	Low	0 (0.0)	0 (0.0)	0 (0.0)	0.037
	Moderate	0 (0.0)	3 (4.8)	3 (4.8)	
	High	36 (58.1)	23 (37.1)	59 (95.2)	
Total		36 (58.1)	26 (41.9)	62 (100.0)	

Abbreviations: RMW, *Regional Minimum Wage*; EPDS, *Edinburgh Postnatal Depression Scale*.

Notes: Data are presented as frequency (n) and percentage (%). Postpartum depression status was determined using the EPDS. p-values were obtained using the Chi-square test. Statistically significant values are shown in bold ($p < 0.05$).

Discussion

The results of this study indicate a significant association between maternal age and the occurrence of Postpartum Depression (PPD). This finding is consistent with a study conducted by Mahendra in Makassar City, which reported a statistically significant relationship between maternal age and PPD ($p < 0.05$).⁷ While maternal age exceeding 35 years is typically regarded as a high-risk group in obstetric studies, various investigations indicate that women over 35 years may actually possess a diminished risk of developing postpartum depression (PPD). This reduced risk may be attributed to higher parity, greater experience in infant care, more mature coping mechanisms, and greater stability in their careers, finances, and relationships compared to younger mothers.^{8,9}

However, the literature contains conflicting evidence. A study conducted by Diniyah in the Sleman region reported no statistically significant association between maternal age and PPD, suggesting that the influence of age may vary across populations and sociocultural contexts.¹⁰

This study found no significant association between maternal educational level and the occurrence of PPD. This result aligns with findings reported by Ulfah, who demonstrated no relationship between maternal education and PPD in Pontianak City. Despite this, educational attainment may still play an indirect protective role, as mothers with higher levels of education tend to use better coping strategies, have greater access to health-related information, and make better decisions.^{11,12} Conversely, a cross-sectional study conducted in Spain involving 3,941 mothers identified maternal educational level as an independent risk factor for postpartum depression, suggesting that the impact of education on maternal mental health may be context-dependent and influenced by the surrounding community.^{13,14}

Several studies have also reported a significant association between family income or socioeconomic status and the occurrence of PPD. Research conducted by Qian, Wei, et al. demonstrated that lower family income and unfavorable socioeconomic conditions were associated with an increased risk of PPD. For families with low socioeconomic conditions, concerns like worrying about how to make ends meet can be a significant source of stress for

mothers. In contrast, the present study's findings indicate no statistically significant association between family income and PPD. This result is consistent with a study conducted by Mahendra in Makassar City. The researchers assume that social and cultural factors may influence this finding. Considering that the majority of respondents in the present study reported family income equal to or above the Regional Minimum Wage, it is possible that the limited variability in income levels and the relatively small sample size may have reduced the statistical power to detect a significant association.^{7,15,16}

Importantly, this study identified a statistically significant association between religiosity and the incidence of PPD. This finding suggests that spiritual or religious engagement may serve as a protective factor against postpartum depressive symptoms. Conversely, a study conducted in West Java, involving 203 adolescent postpartum mothers, found a non-significant relationship between Religiosity and the incidence of PPD. The findings suggest that religiosity may influence maternal mental health indirectly, primarily through its relationship with other psychosocial factors such as social support and marital satisfaction, which appeared to have a more substantial impact on the occurrence of postpartum depression.¹⁷

Religiosity may contribute to improved psychological resilience, emotional regulation, and social support, thereby positively influencing maternal mental health during the postpartum period.

This study utilized a cross-sectional design and relied on primary data collected via self-administered questionnaires, with a relatively small sample size. Furthermore, mental health outcomes are strongly influenced by social, cultural, and contextual factors. Therefore, the findings of this study should be interpreted with caution and cannot be generalized to broader populations.

Conclusion

Maternal age and religiosity were significantly associated with postpartum depression, whereas educational level and family income were not. These findings support the need for improved postpartum mental health awareness, strengthened health education, and routine screening at the primary healthcare level to promote maternal and child well-being.

Conflict of Interest

The authors state that there are no financial relationships or competing interests, including honoraria, research or educational funding, employment, consultancies, share ownership, or other financial stakes. In addition, the authors report no non-financial conflicts of interest, such as personal or professional relationships, affiliations, or beliefs, that could be perceived to influence the content or conclusions of this manuscript.

Acknowledgments

I would like to convey my deepest appreciation to dr. Jelita Inayah Sari, dr. Abd. Rahman and Prof. Mardan for their valuable guidance and support throughout this study. Their expertise, constructive input, and thoughtful insights were essential to the development of this research. I am also thankful to my colleagues and family for their continued encouragement and support, which sustained my motivation throughout the research process.

References

1. Wang Z, Liu J, Shuai H, Cai Z, Fu X, Liu Y, Xiao X, Zhang W, Krabbendam E, Liu S, Liu Z. Mapping global prevalence of depression among postpartum women. *Translational psychiatry*. 2021 Oct 20;11(1):543.
2. Getahun D, Oyelese Y, Peltier M, Yeh M, Chiu VY, Takhar H, Khadka N, Mensah N, Avila C, Fassett MJ. Trends in postpartum depression by race/ethnicity and pre-pregnancy body mass index. *American Journal of Obstetrics & Gynecology*. 2023 Jan 1;228(1):S122-3.
3. Carlson K, Mughal S, Azhar Y, Siddiqui W. Perinatal depression. InStatPearls [Internet] 2025 Jan 22. StatPearls Publishing.
4. Suryawanshi IV O, Pajai S. A comprehensive review on postpartum depression. *Cureus*. 2022 Dec 20;14(12):e32745.
5. Agrawal I, Mehendale AM, Malhotra R. Risk factors of postpartum depression. *Cureus*. 2022 Oct 31;14(10):e30898.
6. Amir Y. Pengembangan skala religiusitas untuk subyek muslim. *Indonesian Journal for The Psychology of Religion*. 2021 Jan 28;1(1):47-60.
7. Mahendra YI, Setiawati D. Hubungan Usia, Paritas, Status Ekonomi, dan Nilai Spiritual terhadap Kejadian Depresi pada Ibu Postpartum di RSIA Paramount Tahun 2020. *Jurnal Ilmu Psikologi Dan Kesehatan (SIKONTAN)*. 2023 Sep 14;2(2):207-14.
8. Bradshaw H, Riddle JN, Salimgaraev R, Zhaunova L, Payne JL. Risk factors associated with postpartum depressive symptoms: A multinational study. *Journal of Affective Disorders*. 2022 Mar 15;301:345-51.
9. Ahmad M, Sechi C, Vismara L. Advanced maternal age: a scoping review about the psychological impact on mothers, infants, and their relationship. *Behavioral sciences*. 2024 Feb 20;14(3):147.
10. Ammah N, Arifiyanto D. Gambaran depresi pada ibu postpartum: Literature review. InProsiding Seminar Nasional Kesehatan 2021 Dec 23 (Vol. 1, pp. 1841-8).
11. Ulfah R, Zakiah M, Assegaf SN, Putri TH. Prevalensi dan Faktor-faktor yang Berhubungan dengan Depresi Postpartum di Kota Pontianak. *eJournal Kedokteran Indonesia*. 2025 May 4;13(1):52-.
12. Munisah M, Ika R, Yuliati L, Hanum DF. Faktor-faktor yang mempengaruhi terjadinya depresi pascapersalinan. *IJMT: Indonesian Journal of Midwifery Today*. 2021 Dec 1;1(1):1-8.
13. Papadopoulou SK, Pavlidou E, Dakanalis A, Antasouras G, Vorvolakos T, Mentzelou M, Serdari A, Pandi AL, Spanoudaki M, Alexatou O, Aggelakou EP. Postpartum depression is associated with maternal sociodemographic and anthropometric characteristics, perinatal outcomes, breastfeeding practices, and Mediterranean diet adherence. *Nutrients*. 2023 Sep 4;15(17):3853.

14. Marwiyah N, Suwardiman D, Mutia HK, Alkarimah NA, Rahayu R, Nuraeni N, Uzzakiyyah I. Faktor Determinan yang Mempengaruhi terjadinya Postpartum Blues pada Ibu Nifas. *Faletehan Health Journal*. 2022 Apr 12;9(01):89-99.
15. Qian W, Xiang J, Wang H, Jia R, Qian H. Association Between Household Income-Related Education and Postpartum Depression: A Two-Step Mendelian Randomization Study. *Clinical and Experimental Obstetrics & Gynecology*. 2025 Dec 23;52(12).
16. Xiao Y, Cui Y, Li F, Zeng W, Rozelle S, Shi C, Xu J, Shi J, Li G, Jiang F. The mediating effect of family support in the relationship between socio-economic status and postpartum depressive symptoms. *BMC Public Health*. 2024 Dec 4;24(1):3374.
17. Nurbaeti I, Lestari KB, Syafii M. Association between Islamic religiosity, social support, marriage satisfaction, and postpartum depression in teenage mothers in West Java, Indonesia: A cross-sectional study. *Belitung Nursing Journal*. 2023 Aug 28;9(4):313.