

ANTENATAL PSYCHOSOCIAL RESOURCES AND OBSTETRIC FACTORS ASSOCIATED WITH CLINICALLY DIAGNOSED POSTPARTUM DEPRESSION: A PROSPECTIVE COHORT STUDY

Caner Yeşiloğlu¹, Sinem Çetin Demirtaş¹, Lut Tamam¹, Süleyman Cansun Demir², Mehmet Emin Demirkol¹, Özge Keleş Bayer², Aslı Sena Alagöz², Çağla Boyvadoğlu¹

¹Department of Psychiatry, Çukurova University Faculty of Medicine, Adana, Türkiye

²Department of Gynecology and Obstetrics, Çukurova University Faculty of Medicine, Adana, Türkiye

BACKGROUND AND AIM: Postpartum depression (PPD) is one of the most common mental health problems affecting women in the perinatal period, causing adverse effects on mother-infant bonding, breastfeeding duration, and early child development. In community-based studies, the prevalence of PPD is reported to be between 21-28%. PPD results from the interaction of biological changes with psychosocial resources and perinatal stressors. Perceived social support, psychological resilience, and depressive symptoms during pregnancy are significant predictors of postpartum depression risk.

Pain catastrophizing and perceived empathy in the physician-patient relationship are also thought to play a role in perinatal mental health. Obstetric factors, especially cesarean delivery and pregnancy complications, have also been associated with the risk of postpartum depression. The aim of this study is to examine the relationship between antenatal psychological and obstetric factors and clinically evaluated postpartum depression in a prospective design.

METHODS (Ethics Committee Approval must be obtained and the number should be specified.): This study is a prospective cohort study conducted in a tertiary university hospital. Participants were evaluated during pregnancy and followed up until the sixth week postpartum. Antenatal psychological, psychosocial, and obstetric data were collected before delivery, and PPD status was determined by a structured clinical psychiatric interview at the sixth week. One hundred pregnant women aged 18 and over, who spoke Turkish and gave written consent, participated in the study. Four individuals receiving active psychiatric treatment, seven who did not complete the antenatal scales, and four who could not be reached for postpartum follow-up were excluded from the study. Consequently, 85 women completed the antenatal and postpartum follow-up assessments. PPD was defined as a binary outcome diagnosed according to a structured clinical psychiatric interview at the sixth week. Antenatal depressive symptoms were assessed with the Beck Depression Inventory (BDI), perceived stress with the Perceived Stress Scale (PSS), social support with the Multidimensional Scale of Perceived Social Support (MSPSS), psychological resilience with the Resilience Scale for Adults (RSA), pain catastrophizing with the Pain Catastrophizing Scale

(PCS), and physician-patient empathy with the Consultation and Relational Empathy (CARE) Measure. Obstetric data were obtained from medical records. Data were analyzed using IBM SPSS 25.0 ($p < 0.05$). Comparisons between groups were made using the independent t-test for normally distributed variables, the Mann-Whitney U test for non-normally distributed variables, and the chi-square test for categorical variables.

Variables found to be significant at the $p < 0.10$ level in univariate analyses and clinically important obstetric factors were included in the multivariate logistic regression model. (This study was approved by the Research Ethics Committee of the Faculty of Medicine, Çukurova University. (Meeting No.157, Decision No.53, 18/07/2025).

RESULTS: Of the 85 women participating in the study, 30% ($n=25$) were diagnosed with PPD. Women who developed PPD had a significantly higher rate of cesarean delivery ($p=0.036$) and obstetric comorbidity ($p=0.048$), while there was no difference in terms of neonatal outcomes.

When antenatal psychological scales were compared, women who developed PPD showed higher depressive symptoms (BDI: 14 [9-19] vs. 8 [5-13], $p < 0.001$), higher perceived stress (24 [19-29] vs. 18 [14-24], $p=0.041$), higher pain catastrophizing (23 [12-35] vs. 13 [5-24], $p=0.032$), lower social support (60 [52-68] vs. 72 [65-78], $p=0.006$), lower psychological resilience (16.1 ± 5.2 vs. 19.9 ± 5.0 , $p=0.009$), and lower perceived empathy (43 [37-48] vs. 47 [42-52], $p=0.048$). In univariate analyses, perceived social support ($OR=0.50$, $p=0.014$) and psychological resilience ($OR=0.59$, $p=0.043$) were found to be protective factors, while cesarean delivery ($OR=2.20$, $p=0.036$) and obstetric comorbidity ($OR=2.75$, $p=0.048$) were risk factors. In the multivariate model, antenatal depressive symptoms ($aOR=1.72$, $p=0.046$), cesarean delivery ($aOR=2.12$, $p=0.047$), and obstetric comorbidity ($aOR=2.63$, $p=0.049$) increased the risk of postpartum depression, while perceived social support ($aOR=0.48$, $p=0.019$) and psychological resilience ($aOR=0.61$, $p=0.047$) reduced the risk. The model showed good discrimination ($AUC=0.78$) and calibration (Hosmer-Lemeshow $p=0.64$).

CONCLUSIONS: This prospective study demonstrates that antenatal psychological and obstetric factors are independent predictors of clinically diagnosed postpartum depression. Our findings reveal that antenatal depressive symptom severity, cesarean delivery, and obstetric comorbidities significantly increase the risk of postpartum depression, while perceived social support and psychological resilience serve as robust protective factors. The vulnerability-buffer framework provides a compelling theoretical lens for understanding these findings. Rather than viewing postpartum depression as solely determined by symptom burden, our results emphasize that psychosocial resources fundamentally shape how antenatal emotional vulnerability translates into clinical outcomes. Women with higher perceived social support and psychological resilience demonstrate substantially lower odds of meeting diagnostic criteria for postpartum depression, even when controlling for baseline depressive symptoms and obstetric complications. From a clinical perspective, these findings have important implications for perinatal mental health practice. First, comprehensive antenatal screening should integrate both vulnerability indicators (depressive symptoms, stress, pain catastrophizing) and protective factors (social support, resilience,

empathetic clinical relationships). Second, interventions targeting resilience enhancement and social support optimization may effectively reduce postpartum depression risk in vulnerable populations. Third, the association between cesarean delivery and postpartum depression warrants attention to the subjective birth experience and psychological processing of delivery events. The model's good discrimination (AUC=0.78) and calibration suggest clinical utility for risk stratification. Early identification of women with high antenatal depressive symptoms, limited social support, or low resilience enables timely preventive interventions. Furthermore, recognizing that obstetric factors interact with psychological vulnerability underscores the importance of integrated perinatal care that bridges obstetrics and psychiatry. Future research should employ longitudinal designs with detailed birth experience measures and explore mechanisms through which psychosocial resources buffer against postpartum depression. Implementation of psychosocial resource assessment into routine perinatal screening represents a practical step toward reducing the burden of postpartum depression and improving maternal and infant outcomes.

REFERENCES

- Dennis CL, Letourneau N (2007) Global and relationship-specific perceptions of support and the development of postpartum depressive symptomatology. *Soc Psychiatry Psychiatr Epidemiol* 42(5):389-95.
- Howard LM, Molyneux E, Dennis CL, Rochat T, Stein A, Milgrom J (2014) Non-psychotic mental disorders in the perinatal period. *Lancet* 384:1775-1788.
- Hajure M, Alemu SS, Abdu Z, Tesfaye GM, Workneh YA, Dule A, Adem Hussen M, Wedajo LF, Gezimu W (2024) Resilience and mental health among perinatal women: a systematic review. *Frontiers in Psychiatry* 15:1373083.
- O'Hara MW, McCabe JE (2013) Postpartum depression: current status and future directions. *Annu Rev Clin Psychol* 9:379-407.
- Smorti M, Ponti L, Pancetti F (2019) A Comprehensive Analysis of Postpartum Depression Risk Factors: The Role of Socio-Demographic, Individual, Relational, and Delivery Characteristics. *Front Public Health* 24(7):295.

Keywords: Cesarean delivery, postpartum depression, pregnancy, psychological resilience, social support

Table 1. Sociodemographic, obstetric, and neonatal characteristics of the participants

Variable	Total (N=85)	No PPD (n=60)	PPD (n=25)	p
Age (years)	29.8 ± 5.4	29.1 ± 5.2	31.2 ± 5.6	0.11
Residence, n (%)				
– Village/Town	18 (%21.2)	14 (%23.3)	4 (%16.0)	
– District	27 (%31.8)	20 (%33.3)	7 (%28.0)	
– City	40 (%47.0)	26 (%43.3)	14 (%56.0)	
Parity	1 [1–2]	1 [1–2]	2 [1–2]	0.08
Maternal obstetric comorbidity, n (%)	18 (%21.2)	9 (%15.0)	9 (%36.0)	0.048
Mode of delivery, n (%)				0.036
– Vaginal	49 (%57.6)	38 (%63.3)	11 (%44.0)	
– Cesarean	36 (%42.4)	22 (%36.7)	14 (%56.0)	
Apgar score at 5 min	9 [8–9]	9 [8–9]	9 [8–9]	0.84
Infant sex (male), n (%)	44 (%51.8)	29 (%48.3)	15 (%60.0)	0.29
Birth weight (g)	3150 ± 420	3190 ± 405	3050 ± 450	0.25
Birth length (cm)	48 [47–50]	48 [47–50]	47 [46–49]	0.35
Head circumference (cm)	34 [33–35]	34 [33–35]	33 [32–35]	0.29

Note: Values are presented as mean ± SD or median [IQR] as appropriate. PPD: Postpartum Depression

Table 2. Comparison of antenatal psychological scale scores by postpartum depression status

Scale	No PPD	PPD	p
Perceived Stress Scale (PSS)	18 [14–24]	24 [19–29]	0.041
Multidimensional Scale of Perceived Social Support (MSPSS)	72 [65–78]	60 [52–68]	0.006
Psychological Resilience (RSA)	19.9 ± 5.0	16.1 ± 5.2	0.009
Pain Catastrophizing Scale (PCS)	13 [5–24]	23 [12–35]	0.032
Consultation and Relational Empathy (CARE) Measure	47 [42–52]	43 [37–48]	0.048
Beck Depression Inventory (BDI)	8 [5–13]	14 [9–19]	<0.001

Note: Group comparisons were performed using Mann–Whitney U or Student's t-test based on distributional properties (Shapiro–Wilk test).