
OBSTETRICS

Prevalence, Perception and Factors Associated with Postpartum Depressive Symptoms among Mothers in a Tertiary Hospital, Surat Thani Province, Thailand

Nuttawut Wetchasat, M.D.*

* Department of Obstetrics and Gynecology, Suratthani Hospital, Surat Thani Province, Thailand

ABSTRACT

Objectives: This study aimed to examine the prevalence of a high Edinburgh Postnatal Depression Scale (EPDS) score (screening-positive postpartum depressive symptoms) and perceptions of postpartum depression (PPD), as well as associated factors within the first 72 hours after delivery.

Materials and Methods: A cross-sectional study was conducted at the Suratthani Hospital in Thailand. Using simple random sampling, 420 postpartum women were assessed within the first 72 hours after delivery between May and August of 2025. Participants completed a self-administered structured questionnaire covering socio-demographic, obstetric, and partner characteristics. Participants' perceptions postpartum were measured by the Postpartum Depression Literacy Scale (PoDLiS). Depressive symptoms were screened using the Thai EPDS, within which, a total score ≥ 11 defined a high EPDS score. Variables significant in bivariable analyses were entered into multivariable logistic regression. Statistical significance was set at $p < 0.05$. Crude odds ratios (ORs) were reported for bivariable (unadjusted) analyses, and adjusted odds ratios (aORs) with 95% confidence intervals (CIs) were reported for multivariable logistic regression.

Results: The prevalence of a high EPDS score within the first 72 hours after delivery was 14.5%. In multivariable analysis, unintended pregnancy (aOR 1.92, 95% CI 1.10, 3.36), antenatal anxiety (aOR 3.05, 95% CI 1.70, 5.49), and household income $\leq 15,000$ THB/month (aOR 2.01, 95% CI 1.09, 3.71) were independently associated with a high EPDS score. In bivariable (unadjusted) analysis, high risk perception during pregnancy was associated with a high EPDS score (OR 7.84, 95% CI 2.12, 29.01, $p = 0.001$), whereas moderate risk perception showed no significant difference versus low (OR 2.55, 95% CI 0.76, 8.53, $p = 0.171$). Obstetric and neonatal characteristics including mode of delivery, birthweight, neonatal intensive care unit admission, and pregnancy complications were not significantly associated with a high EPDS score.

Conclusion: The prevalence of high PPD scores was 14.5%. Unintended pregnancy, antenatal anxiety, and household income signaled higher risk, supporting targeted screening in antenatal care and repeat screening at 4–6 weeks, with prompt psychoeducation and mental-health referrals.

Keywords: postpartum depression, prevalence, perception, Edinburgh postnatal depression scale (EPDS).

ความชุก การรับรู้และปัจจัยที่เกี่ยวข้องกับอาการซึมเศร้าหลังคลอดในมารดาหลังคลอดของโรงพยาบาลระดับตติยภูมิ จังหวัดสุราษฎร์ธานี ประเทศไทย

นัฐวุฒิ เวชศาสตร์

บทคัดย่อ

วัตถุประสงค์: เพื่อศึกษาความชุก การรับรู้ความเสี่ยงขณะตั้งครรภ์ และการคัดกรองอาการซึมเศร้าหลังคลอด (คะแนน EPDS สูง) และปัจจัยที่เกี่ยวข้องกับอาการซึมเศร้าหลังคลอดในมารดาหลังคลอด

วัสดุและวิธีการ: เป็นการศึกษาเชิงพรรณนาแบบตัดขวางในหญิงตั้งครรภ์ที่มาคลอด ในโรงพยาบาลสุราษฎร์ธานีภายใน 72 ชั่วโมงหลังคลอด ตั้งแต่เดือนพฤษภาคมถึงเดือนสิงหาคม พ.ศ.2568 จำนวนกลุ่มตัวอย่าง 420 คนได้เข้าร่วมในงานวิจัยโดยการเก็บข้อมูลของกลุ่มตัวอย่างถูกรวบรวมหลังคลอดบุตร ภายใน 72 ชั่วโมง กลุ่มตัวอย่างได้ทำแบบสอบถามแบบตอบด้วยตนเอง ซึ่งประกอบด้วยข้อมูลเกี่ยวกับลักษณะประชากร ข้อมูลเกี่ยวกับการคลอดและทารก ข้อมูลสามี การรับรู้อาการภาวะซึมเศร้าหลังคลอด (Postpartum Depression Literacy Scale (PoDLiS) และ ใช้แบบสอบถามคัดกรองภาวะซึมเศร้าหลังคลอดเอดินบะระ โดยคะแนนรวมที่มากกว่าเท่ากับ 11 จะถือว่าเป็นคะแนนภาวะซึมเศร้าหลังคลอดที่สูง และวิเคราะห์หาปัจจัยที่เกี่ยวข้องกับการมีคะแนนภาวะซึมเศร้าหลังคลอดสูง ระหว่างข้อมูลส่วนตัว ข้อมูลเกี่ยวกับการคลอดและทารก ข้อมูลสามี และการรับรู้อาการซึมเศร้าหลังคลอด

ผลการศึกษา: พบกลุ่มตัวอย่าง 61 คน จาก 420 คน มีคะแนนอาการซึมเศร้าหลังคลอดสูงที่ 72 ชั่วโมง คิดเป็นร้อยละ 14.52 โดยพบปัจจัยที่เกี่ยวข้องอย่างมีนัยสำคัญทางสถิติ ได้แก่ การตั้งครรภ์ที่ไม่ตั้งใจ (aOR 1.92, 95% CI 1.10, 3.36), ภาวะวิตกกังวลระหว่างตั้งครรภ์ (aOR 3.05, 95% CI 1.70, 5.49) และ รายได้ครัวเรือน $\leq 15,000$ บาท/เดือน (aOR 2.01, 95% CI 1.09, 3.71) มีความสัมพันธ์กับโอกาสเกิดอาการซึมเศร้าหลังคลอดสูงที่สูง ขณะเดียวกัน การรับรู้ความเสี่ยงระหว่างตั้งครรภ์ในระดับสูงสัมพันธ์กับคะแนน EPDS สูง (OR 7.84, 95% CI 2.12, 29.01, $p = 0.001$) ส่วนระดับ ปานกลาง ไม่แตกต่างอย่างมีนัยสำคัญทางสถิติเมื่อเทียบกับระดับต่ำ (OR 2.55, 95% CI 0.76, 8.53, $p = 0.171$) ปัจจัยด้านสูติกรรมและทารกแรกเกิด ได้แก่ วิธีคลอด, น้ำหนักแรกเกิด, การรับไว้รักษาในหอผู้ป่วยหนักทารกแรกเกิดและภาวะแทรกซ้อนระหว่างตั้งครรภ์ ไม่พบความสัมพันธ์อย่างมีนัยสำคัญหลังปรับตัวแปรร่วมแล้ว

สรุป: ความสุขของคะแนนอาการซึมเศร้าหลังคลอดระดับสูงอยู่ที่ร้อยละ 14.5 โดย การตั้งครรภ์ไม่ตั้งใจ ภาวะวิตกกังวล ระหว่างตั้งครรภ์ และรายได้ครัวเรือน เป็นปัจจัยบ่งชี้ความเสี่ยงที่สูงขึ้น ควรมีการคัดกรองสุขภาพจิตขณะฝากครรภ์ และคัดกรองซ้ำที่ 4-6 สัปดาห์หลังคลอด ควบคู่กับการให้ความรู้เรื่องอาการซึมเศร้าหลังคลอด และการส่งต่อบริการสุขภาพจิตต่อไป

คำสำคัญ: อาการซึมเศร้าหลังคลอด, ความสุข, การรับรู้, แบบประเมินอาการซึมเศร้าหลังคลอดเอดินบะระ

Introduction

Postpartum depression (PPD) is a common maternal mental-health condition worldwide and represents a major public-health concern⁽¹⁾. It is the most common psychological disorder after childbirth and a global public health problem⁽¹⁾. Based on 565 studies across 80 countries, a 2021 systematic review estimated the global prevalence of PPD to be 17.22%. In 2023, a meta-analysis placed the worldwide average at 19.18%. There are significant differences between countries, with the highest prevalence in South Africa (44%) and the lowest in Singapore (3%). This study also found high prevalence rates in lower- and middle-income economies⁽²⁾. Regionally in Asia, the highest estimates occur in South Asia (22.32%), followed by West Asia (19.83%), East Asia (17.39%), and Southeast Asia (13.53%)⁽¹⁾. Postpartum depression can affect both the mental and physical health of mothers, as well as infant care and family relationships. Postpartum depression is not just a temporary problem; in some instances, it may have enduring consequences for a mother's quality of life. This emotional disorder manifests various physical and emotional symptoms. Postpartum depression affects both the physical and mental well-being of mothers, impacting stress levels and infant-rearing behaviors⁽³⁾. Postpartum depression

presents with symptoms similar to general depressive disorder, and recurrence occurs in roughly one quarter of women with a previous episode⁽⁴⁾. Postpartum depression also affects mothers' emotions and behaviors, as well as family relationships, which can lead to severe conflicts such as divorce. In extreme cases, it can result in suicidal thoughts or harm to the infant⁽⁵⁾. The impact of this condition not only affects mothers but also has long-term consequences for the physical and emotional development of infants⁽⁶⁾. In Thailand, mental health challenges still exist among postpartum mothers, who are a significant risk group. The Department of Mental Health reports a 16.8% prevalence of PPD⁽⁷⁾. Existing evidence on PPD prevalence comes from studies conducted in different hospital contexts, demonstrating that rates shift according to participant characteristics and local conditions. When postpartum mothers were assessed at 4-6 weeks, the most common period for prevalence studies, the rate of PPD in Thailand was found to be between 17.42% and 64.71%⁽⁸⁻¹¹⁾. All of the aforementioned studies used the Edinburgh Postnatal Depression Scale (EPDS)⁽¹²⁾. Evidence on postpartum mental-health prevalence in Thailand is limited, and few studies have assessed PPD within the first 72 hours after delivery. For

example, studies at Phang Khon Hospital in Sakon Nakhon Province and Nong Han Hospital in Udon Thani Province found rates ranging from 3.4% to 12.7%⁽¹³⁾. At Kaeng Khoi hospital in Saraburi Province, PPD affected 13.8% of study participants⁽¹⁴⁾. The prevalence of PPD varies depending on the characteristics of the sample group, location, and time period. Although there is extensive research on PPD in mothers in Thailand, data on prevalence and related factors in specific areas of Surat Thani province are still limited, and most studies focus on evaluating mothers six weeks postpartum rather than within 72 hours. This study is therefore important in filling this knowledge gap. The aim of this study was to determine the prevalence of a high EPDS score (screening-positive postpartum depressive symptoms) within 72 hours after delivery, to assess perceptions related to postpartum depression, and to identify factors associated with a high EPDS score among postpartum women at a tertiary hospital in Surat Thani Province, Thailand.

Materials and Methods

A cross-sectional design was used between May and August of 2025 at Suratthani Hospital, which is a tertiary-care facility in Surat Thani Province, Thailand. Ethics approval was obtained from the hospital's Human Research Ethics Committee (IRB No. 0016/68).

A total of 482 postpartum women were approached, and 462 consented and participated (response rate 95.9%). After excluding 42 participants with incomplete data, the final analytic sample comprised 420 postpartum women. Eligible participants were postpartum women who delivered

at Suratthani Hospital and were 72 hours postpartum at enrollment. In addition, they were required to be Thai nationals aged ≥ 18 years, registered residents of Surat Thani Province (listed in the provincial household registry), and able to provide voluntary, informed consent. Participants were excluded for any prior diagnosis of a psychiatric disorder before the current pregnancy, severe postpartum complications, a chronic medical illness, if they were non-Thai nationals, or were unable to communicate adequately in Thai to complete study procedures or provide consent. The number of participants who were found to be within the range of the first 72 hours after delivery at the time of enrollment was determined by a priori sample size estimation.

The sample size was determined using Cochran's single-proportion equation (Cochran, 1977) (15). An assumed prevalence of postpartum depression $p = 0.50$, and a margin of error $d = 0.05$ and specifying a 95% confidence level ($Z = 1.96$). The initial estimate was approximately 384. This allowed for a 10% non-response rate. Final sample consisted of 420 postpartum women, selected by simple random sampling.

Concerning data collection procedures, the participants completed a structured, self-administered, closed-ended questionnaire (completion time ≤ 20 minutes). The instrument captured socio-demographic characteristics, delivery and infant information, partner characteristics, perception of postpartum depressive symptoms, and screened for PPD using the Thai EPDS. Responses were recorded privately and checked for completeness before submission.

The instrument comprised five parts. Part 1

(maternal socio-demographics, 15 items) captured age, education, occupation, parity, marital registration, health-insurance scheme, household income, financial hardship, antenatal anxiety, pregnancy intention, postnatal caregiving support, infant-sex preference match, number of ANC visits, antenatal diseases/complications, and maternity leave. Part 2 (delivery and infant data, 7 items) included infant sex, birthweight, mode of delivery, congenital anomalies, neonatal complications, birth trauma, and NICU admission. Part 3 (partner characteristics, 2 items) recorded partner age and education. Part 4 (perception of postpartum depressive symptoms, 10 items) was adapted from the Postpartum Depression Literacy Scale⁽¹⁶⁾ to assess symptom recognition. Items were rated using a 5-point Likert (scale ranging from 1 = strongly disagree to 5 = strongly agree). Totals ranging from 10–50 were interpreted as follows: 1) 10–19 low risk, 2) 20–39 moderate risk (monitor indicated), and 3) 40–50 high risk (referral recommended). Part 5 (postpartum depression screening) used the Thai version of the Edinburgh Postnatal Depression Scale⁽¹⁶⁾. The scale consisted of 10 items based on a 4-point Likert scale (0–3), total 0–30, with a cut-off ≥ 11 indicating a high EPDS score/positive screen for PPD requiring further clinical evaluation. Regarding instrument quality, the content validity of parts 1–4 was determined by review of three experts. Internal consistency exceeded Cronbach's $\alpha > 0.70$.

The primary outcome was the prevalence of a high PPD score within 72 hours postpartum, defined as a Thai EPDS total ≥ 11 . Secondary outcomes included the following: (1) the perception of postpartum depressive symptoms based on

PoDLiS (total score and risk categories), and (2) socio-demographic and obstetric correlates of a high EPDS score, examined by comparing high-score versus normal-score groups and multivariable modeling. Analyses were performed in SPSS v26. Descriptive statistics included number, percentage, means, and standard deviations. Associations were assessed using logistic regression; variables significant in univariate testing entered a multivariable model. Results were presented as adjusted odds ratios (aOR) with 95% confidence intervals (CI). A p value < 0.05 was considered statistically significant.

Results

In bivariable analyses of the 420 postpartum women (24–72 hours postpartum), several socio-demographic factors were associated with a high EPDS score (≥ 11). Higher odds were observed in mothers with primary education versus secondary (OR 2.20, 95% CI 1.02, 4.75, $p = 0.042$), those reporting household financial problems (OR 2.03, 95% CI 1.15, 3.60, $p = 0.017$), antenatal anxiety (OR 3.45, 95% CI 1.95, 6.10, $p < 0.001$), unplanned pregnancy (OR 2.18, 95% CI 1.26, 3.79, $p = 0.006$), no childcare support (OR 2.19, 95% CI 1.19, 4.02, $p = 0.009$), and household income $\leq 15,000$ THB/month versus 15,001–30,000 (OR 2.45, 95% CI 1.36, 4.40, $p = 0.003$). By contrast, age (≤ 24 years: OR 1.42, 95% CI 0.71, 2.83; ≥ 35 years: OR 1.03, 95% CI 0.48, 2.22), marital registration (OR 1.67, 95% CI 0.91, 3.07), maternal occupation, and health-insurance scheme were not significantly associated with high EPDS (all $p > 0.05$). Socio-demographic characteristics and crude associations are shown in Table 1.

Table 1. Socio-demographic characteristics and associations with high EPDS score (≥ 11) within 72 hours postpartum (n = 420).

Variable	Normal EPDS (n = 359) n (%)	High EPDS (n = 61) n (%)	Crude OR (95% CI)	p value
Age (years)				
≤ 24	48 (13.6)	12 (19.7)	1.42 (0.71, 2.83)	0.311
25–34 (ref)	243 (69.0)	39 (63.9)	1.00	
≥ 35	61 (17.4)	10 (16.4)	1.03 (0.48, 2.22)	0.439
Marital status				
Registered (ref)	131 (37.2)	16 (26.2)	1.00	
Not registered	221 (62.8)	45 (73.8)	1.67 (0.91, 3.07)	0.087
Maternal education				
Primary	32 (9.1)	12 (19.7)	2.20 (1.02, 4.75)	0.042
Secondary (ref)	152 (43.2)	24 (39.3)	1.00	
diploma	95 (27.0)	13 (21.3)	0.87 (0.42, 1.80)	0.467
Bachelor's degree or higher	73 (20.7)	12 (19.7)	1.04 (0.49, 2.23)	0.123
Financial problems				
No (ref)	258 (73.3)	35 (57.4)	1.00	
Yes	94 (26.7)	26 (42.6)	2.03 (1.15, 3.60)	0.017
Antenatal anxiety				
No (ref)	271 (77.0)	30 (49.2)	1.00	
Yes	81 (23.0)	31 (50.8)	3.45 (1.95, 6.10)	< 0.001
Pregnancy planning				
Planned (ref)	212 (60.2)	25 (41.0)	1.00	
Unplanned	140 (39.8)	36 (59.0)	2.18 (1.26, 3.79)	0.006
Childcare support				
Yes (ref)	284 (80.8)	40 (65.6)	1.00	
No	68 (19.2)	21 (34.4)	2.19 (1.19, 4.02)	0.009
Household income (THB/month)				
≤ 15,000	115 (32.7)	35 (57.4)	2.45 (1.36, 4.40)	0.003
15,001–30,000 (ref)	175 (49.7)	20 (32.8)	1.00	
> 30,000	62 (17.6)	6 (9.8)	0.85 (0.34, 2.12)	0.323
Occupation				
Housewife	150 (42.6)	30 (49.2)	1.29 (0.72, 2.33)	0.628
Farmer	72 (20.5)	11 (18.0)	1.12 (0.50, 2.47)	0.138
Self-employed/Business owner (ref)	88 (25.0)	13 (21.3)	1.00	
Civil service/company employees	43 (12.0)	7 (11.5)	1.12 (0.43, 2.91)	0.109
Health insurance				
Universal coverage (ref)	198 (56.2)	38 (62.3)	1.00	
Social security	88 (25.0)	13 (21.3)	0.77 (0.39, 1.54)	0.574
Civil servant scheme	67 (18.8)	10 (16.4)	0.77 (0.36, 1.67)	0.437

EPDS: elevated postpartum depressive symptoms, OR: odds ratio, CI: confidence interval, ref: reference category, THB: Thai Baht

Table 2 shows that no significant differences in obstetric outcomes were observed between the high and normal PPD groups. On the other hand,

a variable showing a significant association was high risk perception during pregnancy, which was linked to markedly higher odds of a high EPDS

score compared with low-risk perception (OR 7.84, 95% CI 2.12, 29.01, $p = 0.001$). In contrast, the

moderate level risk perception was not statistically different (OR 2.55, 95% CI 0.76, 8.53, $p = 0.171$).

Table 2. Pregnancy and delivery-related characteristics and associations with high EPDS score (≥ 11) within 72 hours postpartum ($n = 420$).

Variable	Normal EPDS (n = 359) n (%)	High EPDS (n = 61) n (%)	Crude OR (95% CI)	p value
Birth weight (g)				
< 2500	22 (6.1)	5 (8.2)	1.37 (0.50, 3.76)	0.570
≥ 2500 (ref)	337 (93.9)	56 (91.8)	1.00	
Antenatal care visits				
< 4	15 (4.2)	5 (8.2)	2.07 (0.71, 6.06)	0.188
4–8	120 (33.4)	20 (32.8)	1.04 (0.57, 1.87)	0.881
> 8 (ref)	224 (62.4)	36 (59.0)	1.00	
Infant sex as expected				
Yes (ref)	290 (80.8)	48 (78.7)	1.00	
No	69 (19.2)	13 (21.3)	1.14 (0.58, 2.22)	0.727
Pregnancy complications				
No (ref)	310 (86.4)	50 (82.0)	1.00	
Yes	49 (13.6)	11 (18.0)	1.39 (0.68, 2.86)	0.427
Mode of delivery				
Vaginal delivery (ref)	270 (75.2)	45 (73.8)	1.00	
Cesarean delivery	89 (24.8)	16 (26.2)	1.08 (0.58, 2.00)	0.873
NICU admission				
No (ref)	345 (96.1)	58 (95.1)	1.00	
Yes	14 (3.9)	3 (4.9)	1.27 (0.36, 4.57)	0.723
Number of children				
1 (ref)	150 (41.8)	24 (39.3)	1.00	
2	135 (37.6)	20 (32.8)	0.93 (0.49, 1.75)	0.872
≥ 3	74 (20.6)	17 (27.9)	1.44 (0.73, 2.84)	0.371
Risk perception during pregnancy				
Low (ref)	50 (13.9)	3 (4.9)	1.00	
Moderate	275 (76.6)	42 (68.9)	2.55 (0.76, 8.53)	0.171
High	34 (9.5)	16 (26.2)	7.84 (2.12, 29.01)	0.001

High EPDS = Thai EPDS total ≥ 11 within 72 hours postpartum.

Crude OR from bivariable logistic regression.

EPDS: elevated postpartum depressive symptoms, OR: odds ratio, CI: confidence interval, ref: reference category, THB: Thai Baht

In the multivariable logistic regression (Table 3), after control for covariates, several factors remained significantly associated with a high EPDS score (≥ 11) within 24–72 hours postpartum: unintended pregnancy (aOR 1.92, 95% CI 1.10, 3.36, $p = 0.021$), antenatal anxiety (aOR 3.05, 95% CI

1.70, 5.49, $p < 0.001$), and household income $\leq 15,000$ THB/month (aOR 2.01, 95% CI 1.09, 3.71, $p = 0.025$). By contrast, financial problems (aOR 1.58, $p = 0.125$) and lack of childcare support (aOR 1.76, $p = 0.067$) did not reach statistical significance after adjustment. In summary, mothers with unintended

pregnancies, antenatal anxiety, and very low household income should be prioritized for early

screening and close follow-up in the immediate postpartum period.

Table 3. Logistic regression analysis of factors associated with high EPDS score (≥ 11) within 72 hours postpartum ($n = 420$).

Variable	Crude OR (95% CI)	p value	Adjusted OR (95% CI)	p value
Unintended pregnancy	2.18 (1.26, 3.79)	0.006	1.92 (1.10, 3.36)	0.021
Financial problems	2.03 (1.15, 3.60)	0.017	1.58 (0.88, 2.85)	0.125
Antenatal anxiety	3.45 (1.95, 6.10)	< 0.001	3.05 (1.70, 5.49)	< 0.001
Lack of childcare support	2.19 (1.19, 4.02)	0.009	1.76 (0.96, 3.24)	0.067
Household income $\leq 15,000$	2.45 (1.36, 4.40)	0.003	2.01 (1.09, 3.71)	0.025

OR: odds ratio, CI: confidence interval

Discussion

This study assessed the prevalence and factors associated with elevated postpartum depressive symptoms (EPDS ≥ 11) within 24–72 hours after delivery. A prevalence of 14.5% was found, which aligns with international and Southeast Asian estimates that are commonly reported to be around 10–18%⁽¹⁷⁾. In multivariable analyses, factors that remained independently associated with a high EPDS score were unintended pregnancy (aOR 1.92, 95% CI 1.10, 3.36), antenatal anxiety (aOR 3.05, 95% CI 1.70, 5.49), and household income $\leq 15,000$ THB/month (aOR 2.01, 95% CI 1.09, 3.71). These findings are consistent with the literature indicating that pregnancy intention, mental health during pregnancy, and economic disadvantage are foundational drivers of vulnerability to PPD^(15–18).

In this study, at 72-hour prevalence of postpartum depressive symptoms was 14.5%. This estimate was higher than the prevalence reported at Kaeng Khoi Hospital (13.8%)⁽¹⁴⁾, and higher than findings from Phang Khon and Nong Han Hospitals, where prevalence was 3.4% among primiparous mothers and 12.7% among multiparous mothers⁽¹³⁾. It also exceeded the results of Sroi Anusornthirakun et al (2020), who reported 14.3% with moderate–high stress and 8.4% at risk of depression⁽¹⁹⁾. Conversely, our estimate was lower than Charoenkrung Pracharak Hospital⁽⁸⁾ and across four hospitals in Nakhon Ratchasima⁽²⁰⁾, which reported a prevalence of

23.11%. At the same time, our value remained higher than the national survey by Benjaporn Panyayong, which found 8.4%⁽²¹⁾, and higher than some international reports assessing 2–14 weeks postpartum that observed 7.4%⁽³⁾.

Differences across studies likely reflect assessment timing, sample composition, care-setting context, and measurement thresholds. Screening within the first 72 hours as in our study can overlap with postpartum blues, which is common in the first week and may elevate early symptom detection relative to assessments at 4–6 weeks. The use of a Thai EPDS cut-off ≥ 11 likely increases specificity for PPD compared with blues; even so, repeat screening at 4–6 weeks remains advisable. Beyond timing and cut-offs, variability in parity structure (primiparous vs multiparous), socioeconomic conditions, partner/family support, and the availability/urgency of mental-health services in each locality can shift observed prevalence. Contextual features of the care setting (tertiary urban centers versus community hospitals) and differences in how the EPDS threshold is applied or interpreted can also push estimates higher or lower. Evidence from a Thai setting further supports the importance of early postpartum screening and follow-up. Inthorn et al (2023) assessed mothers at 2 days postpartum and again at 6 weeks and reported that postpartum blues was strongly associated with late postpartum depressive symptoms (aOR 7.16, 95% CI 1.87, 27.39). Notably, lack of support in newborn care

(aOR 4.48) and perceived breastmilk inadequacy (aOR 8.62) were also significant predictors of later depressive symptoms, highlighting that psychosocial and caregiving-related stressors may contribute to symptom persistence beyond the first postpartum week⁽²²⁾.

Taken together, these findings are compatible with Thai evidence showing that caregiving-related support and early emotional instability (postpartum blues) are key predictors of later depressive symptoms, whereas some obstetric characteristics may show weaker associations after adjustment.

Overall, our 14.5% estimate sits between the lower figures reported in some settings (3.4–12.7%) and higher estimates in others (e.g., 23.11%), reinforcing that prevalence varies by time point, place, and population characteristics. These patterns underscore the prominent role of psychosocial determinants—such as pregnancy intention, antenatal anxiety, low income, and partner support—which often exhibit greater predictive value for postpartum depressive symptoms than purely clinical variables.

Multivariable analyses indicated that household income $\leq 15,000$ THB/month was independently associated with a high EPDS score, consistent with Thai evidence linking financial hardship to postpartum depression⁽¹⁴⁾ and low perceived economic status as a strong risk factor for PPD⁽²³⁾. Plausible mechanisms include increased stress load and reduced resources for maternal/self-care, heightening vulnerability to postpartum depression.

Unintended pregnancy was also independently associated with high EPDS, aligning with Sornmayura et al (2023)⁽²⁴⁾ and corroborated by Gebregziabher and Netsereab⁽³⁾ who likewise reported elevated PPD risk among women with unplanned pregnancies. Lack of pregnancy intention may relate to role strain, limited resources, and insufficient partner/family support.

Furthermore, antenatal anxiety showed a significant association with high EPDS, its role as a direct predictor and/or mediator linking socio-economic stressors to postpartum depressive symptoms. In parallel, high perceived pregnancy risk

was associated with high EPDS, whereas moderate perceived risk was not, suggesting that very high-risk appraisal may co-occur with intense anxiety/health concerns and merits proactive management during antenatal care.

Regarding clinical implications, screening should prioritize high-risk groups, specifically mothers with unintended pregnancies, antenatal anxiety, and very low household income. Screening tools should be integrated during pregnancy (e.g., anxiety/depression screening in antenatal care) and repeated in the early postpartum period before discharge, coupled with appropriate supports, including PPD psychoeducation, self-care guidance, referral to mental health services, and linkage to social/economic assistance for low-income households.

Conversely, obstetric factors such as mode of delivery, birth weight, NICU admission, and pregnancy complications were not significantly associated with high EPDS scores after adjustment, in line with prior evidence that psychosocial factors often outweigh purely clinical variables in predicting postpartum depressive symptoms⁽²²⁻²⁵⁾. In bivariable analyses, high perceived pregnancy risk was strongly associated with high EPDS, but this relationship may be partly explained when modeled jointly by antenatal anxiety and socioeconomic factors, suggesting potential mediating or moderating pathways warranting further investigation⁽²⁶⁻³¹⁾.

A distinctive feature of this study is that the screening took place within 72 hours postpartum, which offers operational convenience but overlaps with postpartum blues, typically transient in the first week. Using the Thai EPDS cut-off ≥ 11 likely improves specificity relative to blues nonetheless, a repeat screen at 4–6 weeks postpartum is advisable to confirm and monitor those who screen positive early. Consistent with this approach, reported a significant correlation between Thai EPDS scores measured in the early postpartum period (prior to discharge) and at 6 weeks postpartum (Spearman's $r = 0.36$, $p < 0.001$). The authors also demonstrated moderate discriminative ability of early EPDS for predicting

high-risk depressive symptoms at 6 weeks (AUC = 0.74) and proposed an early EPDS cut-off around $\geq 8-9$ to optimize sensitivity and specificity. Together, these findings reinforce that early postpartum EPDS is useful for identifying women who warrant closer monitoring but repeat assessment at 4–6 weeks postpartum remains essential to confirm persistence of symptoms and to differentiate transient postpartum blues from sustained depressive symptomatology⁽³³⁾. Strengths included an adequate sample size ($n = 420$), use of a validated Thai EPDS, and multivariable modeling that adjusts for key confounders. Limitations included the cross-sectional design (which precludes causal inference), self-report bias (potential social desirability/recall bias), and a single tertiary-hospital setting (limiting generalizability). Moreover, assessment at 24–72 hours cannot fully distinguish blues from PPD, and diagnoses were not verified with a structured clinical interview (e.g., DSM-5). Future research should repeat screening at 4–6 weeks and adopt longitudinal designs to track progression from early symptoms to sustained PPD. Additionally, studies should examine the mediating roles of anxiety, perceived risk, and social support, and test upstream interventions (e.g., antenatal anxiety-reduction programs, family planning support, and socio-economic assistance) on PPD outcomes.

Conclusion

The prevalence of a high EPDS score within the first 72 hours after delivery was 14.5%. Determinants were household income $\leq 15,000$ THB/month, antenatal anxiety, and unintended pregnancy. These results support risk-targeted screening integrated into antenatal care, which should be repeated again at 4–6 weeks. Timely psychoeducation, mental-health referrals, and linkage to social/economic supports are recommended to mitigate the burden of PPD.

Potential conflicts of interest

The author declares no conflicts of interest.

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