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Prevalence and Determinants of Early Postpartum Emotional Disturbance Among Mothers After Cesarean Section : A Systematic Review

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A B S T R A C T

Background: Early postpartum emotional disturbance is a significant maternal health concern following cesarean section, as postoperative pain, delayed physical recovery, and childbirth-related psychological stress can increase maternal emotional vulnerability during the puerperium. When not identified promptly, these disturbances may disrupt breastfeeding adaptation, infant care, maternal well-being, and mother–infant bonding. This systematic review sought to determine the prevalence and primary determinants of early postpartum emotional disturbance among mothers after cesarean section. A systematic literature search was performed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines, utilizing PubMed, Scopus, ScienceDirect, and Google Scholar to identify peer-reviewed articles published between 2016 and 2026. Following title and abstract screening and full-text eligibility assessment, 33 studies were included in the final synthesis. The evidence reviewed indicated that emotional disturbances in the early postpartum period among mothers after cesarean section are consistently reported across diverse populations. Psychosocial determinants, including antenatal anxiety, prior emotional vulnerability, maternal stress, and insufficient husband or family support, were identified as the most influential contributing factors. Clinical factors such as emergency cesarean procedures, postoperative pain, sleep disturbance, hormonal fluctuation, and delayed postoperative recovery further exacerbated maternal emotional instability. These findings suggest that postpartum care after cesarean section should incorporate early psychological screening, effective management of postoperative symptoms, and family-centered emotional support to mitigate the risk of persistent maternal psychological disorders.

INTRODUCTION

Maternal mental health constitutes a fundamental aspect of postpartum care, as psychological disturbances following childbirth can negatively impact both maternal well-being and functioning (1). During the postpartum period, breastfeeding adaptation and maternal emotional condition are closely linked (2). Psychological disturbances in mothers may also disrupt mother–infant bonding and hinder infant development during the early postpartum phase (3). The postpartum period is a critical transition characterized by emotional, hormonal, physical, and social changes that may heighten maternal psychological vulnerability (4). Commonly reported emotional symptoms during this period include anxiety, mood instability, irritability, a tendency to cry, and heightened emotional sensitivity (5). While these symptoms are often regarded as temporary postpartum responses, unmanaged emotional disturbances can develop into persistent psychological disorders, adversely affecting both maternal and neonatal outcomes (6). Consequently, maternal mental health surveillance has become an increasingly important element of global postpartum healthcare services (7).

The increasing global prevalence of cesarean section has intensified concerns regarding maternal emotional disturbance during the postpartum period (8). Cesarean delivery has been associated with a higher risk of postpartum depressive symptoms compared with vaginal delivery (9). Mothers undergoing cesarean delivery frequently experience additional physical
and psychological burdens related to operative procedures and postoperative recovery (10). Traumatic childbirth perception and psychological distress are commonly reported among mothers following operative delivery, particularly after emergency cesarean section (11). Postoperative pain, delayed mobilization, breastfeeding difficulties, sleep disruption, and dependence on family assistance may significantly reduce maternal coping capacity during the puerperium (12). Antenatal anxiety and pregnancy-related stress are important predictors of postpartum emotional disturbance among postpartum mothers (13). Inadequate partner support has consistently

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been associated with worsening maternal emotional symptoms during the postpartum period (14). Hormonal fluctuation during the transition from pregnancy to postpartum may further increase maternal emotional vulnerability (15).

Although research on postpartum depression and maternal mental health is expanding, evidence specifically addressing early postpartum emotional disturbances among mothers following cesarean section remains limited and methodologically fragmented (13). Most previous reviews have concentrated on postpartum depression in general maternal populations, rather than synthesizing emotional disturbances during the early postpartum period after cesarean delivery (7). Many studies assess isolated determinants such as anxiety, postoperative pain, hormonal changes, or social support independently, which restricts a comprehensive understanding of the multidimensional factors influencing maternal emotional vulnerability after cesarean section (12). Variability in study populations, outcome measures, and postpartum follow-up periods has further contributed to inconsistencies in reported prevalence and patterns of determinants (13). Therefore, a focused and multidimensional synthesis is required to clarify the prevalence and primary determinants of early postpartum emotional disturbance among mothers after cesarean section.

This systematic review is among the first to comprehensively synthesize psychosocial, clinical, and biological determinants associated with early postpartum emotional disturbance among mothers after cesarean section, drawing on evidence published within the last decade. The review aims to identify and analyze both the prevalence and dominant determinants of emotional disturbances during the early postpartum period following cesarean delivery. The findings are expected to enhance evidence-based postpartum care by informing the integration of early psychological screening, postoperative symptom management, and family-centered emotional support into maternal healthcare services.

METHODS

Study Design

This study used a systematic review design to comprehensively identify, critically evaluate, and synthesize scientific evidence concerning the prevalence and determinants of early postpartum emotional disturbance among mothers after cesarean section. The review process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure methodological transparency and a structured process of study identification, screening, eligibility assessment, and final inclusion.

Search Strategy

A systematic literature search was conducted between February and March 2026 using four electronic databases: PubMed, Scopus, ScienceDirect, and Google Scholar. The search strategy combined Medical Subject Headings (MeSH) terms and free-text keywords related to population, determinants, and outcomes. The principal search terms included “cesarean section”, “cesarean delivery”, “postpartum emotional disturbance”, “postpartum emotional symptoms”, “postpartum blues”, “maternal mental health”, “postpartum depression”, “risk factors”, and “determinants”. The Boolean operators AND and OR were used to broaden search sensitivity while maintaining relevance. The primary search strategy was structured as follows: cesarean section OR cesarean delivery AND postpartum emotional disturbance OR postpartum emotional symptoms OR postpartum blues AND risk factors OR determinants OR maternal mental health.

Eligibility Criteria

Peer-reviewed original research articles published between January 2016 and March 2026 in English or Indonesian were considered eligible for inclusion. Included studies involved mothers undergoing elective or emergency cesarean section and reported emotional disturbances, emotional symptoms, postpartum blues, or early postpartum psychological symptoms together with associated determinants or prevalence data.Eligible study designs included observational, cross-sectional, cohort, prospective, and randomized controlled trials. Review articles, systematic reviews, meta-analyses, scoping reviews, literature reviews, editorials, conference abstracts, commentaries, and case reports were excluded to maintain methodological consistency and reduce evidence overlap within the narrative synthesis. Studies focusing solely on long-term postpartum depression without assessing early postpartum emotional symptoms and studies that did not specifically distinguish cesarean mothers were also excluded.Review articles, systematic reviews, meta-analyses, scoping reviews, and literature reviews

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were excluded from the primary evidence synthesis. However, several review-based publications were retained as supporting contextual references to strengthen conceptual interpretation and discussion.

Study Selection

Study selection was conducted through several stages, including duplicate removal, title screening, abstract screening, and full-text eligibility assessment. Initially, all identified records were imported and screened for duplication. Titles and abstracts were then independently evaluated according to the inclusion and exclusion criteria. Full-text articles considered potentially eligible were subsequently assessed comprehensively by the research team. Any discrepancies during the selection process were resolved through discussion and consensus among the reviewers. The detailed study selection process is presented in the PRISMA flowchart (Figure 1).

Quality Appraisal

The methodological quality of the included studies was independently assessed using the Critical Appraisal Skills Program (CASP) checklist, tailored to each study's design. Cross-sectional studies, cohort studies, longitudinal studies, and randomized controlled trials were evaluated using the corresponding CASP appraisal tools. The quality assessment focused on methodological rigor, participant selection, validity of measurement instruments, clarity of reported outcomes, and potential sources of bias. Based on the appraisal findings, studies were categorized into high, moderate, or low methodological quality. The summary of the quality appraisal of the included studies is presented in Table 1.

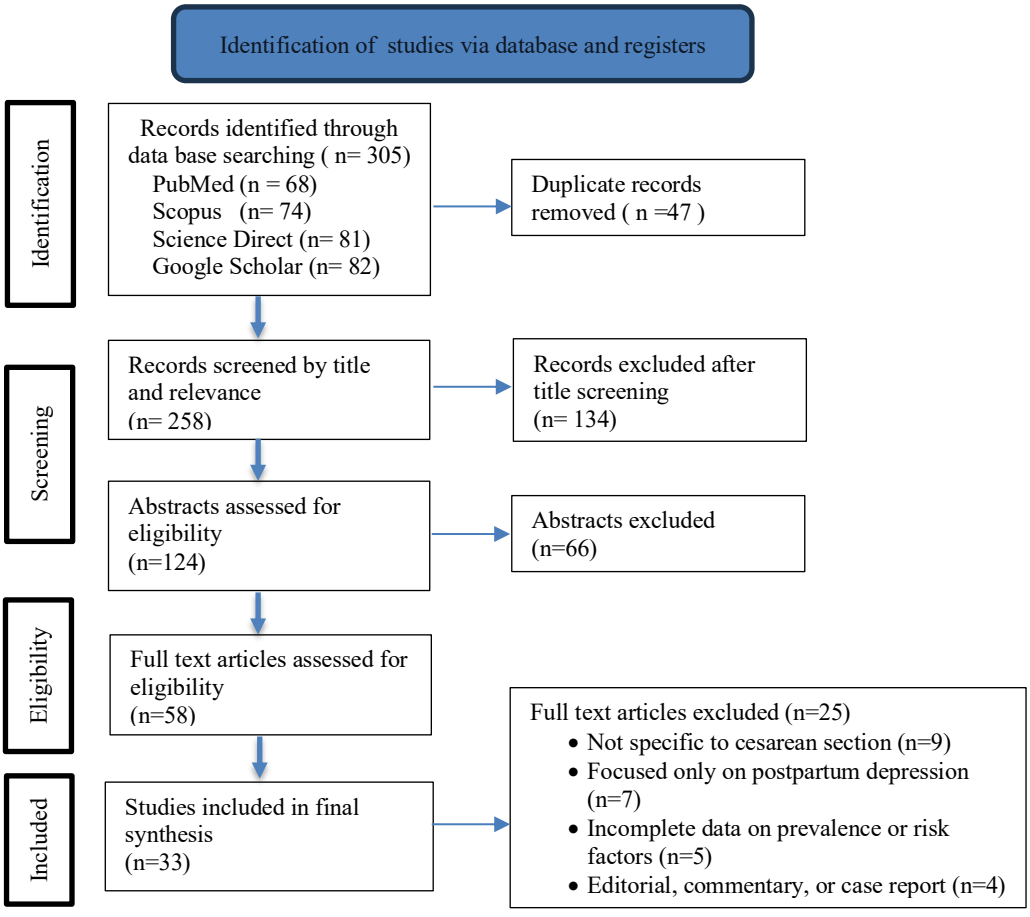


Figure 1. PRISMA flow Diagram of the Study Selection Process

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Data Extraction and Data Synthesis

Relevant data from each included study were extracted into a structured review matrix covering the author and publication year, study setting, sample characteristics, study design, measurement instruments, determinants analyzed, and principal findings. The extracted evidence was synthesized narratively to identify recurring prevalence patterns and dominant psychosocial, clinical, and biological determinants associated with early postpartum emotional disturbance following cesarean section. Due to heterogeneity in study designs, outcome measures, and follow-up periods among the included studies, a quantitative meta-analysis was not performed.

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Table 1. Quality Appraisal on Included Studies

No	Author (Year)	Study Design	Appraisal Tool	Quality Assessment
1	Islam MJ et al.[16]	Cross-sectional	CASP	Moderate
2	Lumia et al.[17]	Cross-sectional	CASP	Moderate
3	Landman et al.[6]	Cohort Study	CASP	High
4	Liu et al.[13]	Systematic Review and Meta-analysis	CASP Systematic Review Checklist	High
5	Ruan & Wu[14]	Cross-sectional	CASP	Moderate
6	Chen et al.[18]	Randomized Controlled Trial	CASP RCT Checklist	High
7	Amer et al.[19]	Cross-sectional	CASP	Moderate
8	Rezaie-Keikhaie et al.[7]	Systematic Review and Meta-analysis	CASP Systematic Review Checklist	High
9	Tambelli et al.[20]	Systematic Review	CASP Systematic Review Checklist	High
10	Lantigua-Martinez et al.[21]	Cohort Study	CASP	Moderate
11	Sun et al.[9]	Systematic Review and Meta-analysis	CASP Systematic Review Checklist	High
12	Zedan et al.[22]	Cross-sectional	CASP	Moderate
13	Hernández-Martínez et al.[11]	Cross-sectional	CASP	Moderate
14	Shi et al.[23]	Systematic Review and Meta-analysis	CASP Systematic Review Checklist	High
15	Dadi et al.[24]	Systematic Review and Meta-analysis	CASP Systematic Review Checklist	High
16	Ren et al.[25]	Randomized Controlled Trial	CASP RCT Checklist	High
17	Lin et al.[12]	Prospective Cohort Study	CASP	High
18	Xu et al.[26]	Randomized Controlled Trial	CASP RCT Checklist	High
19	Murata et al.[27]	Cohort Study	CASP	High
20	Handini et al.[28]	Cross-sectional	CASP	Moderate
21	Cho et al.[29]	Cross-sectional	CASP	High
22	Shorey et al.[30]	Longitudinal Cohort Study	CASP	High
23	Li et al.[31]	Cross-sectional	CASP	Moderate

24	Schiller et al.[15]	Cohort Study	CASP	High
25	Yang et al.[32]	Cohort Study	CASP	High
26	Jiménez-Barragan et al.[33]	Cross-sectional	CASP	Moderate
27	Wang et al.[34]	Prospective Cohort Study	CASP	High
28	Li B et al.[35]	Prospective Cohort Study	CASP	High
29	Layton et al.[8]	Scoping Review	CASP Systematic Review Checklist	Moderate
30	Fisher et al.[36]	Scoping Review	CASP Systematic Review Checklist	Moderate
31	Yokoyama et al.[10]	Cohort Study	CASP	High
32	Hong & Buntup [37]	Scoping Review	CASP Systematic Review Checklist	Moderate
33	Susanti et al.[38]	Literature Review	CASP Review Checklist	Moderate

RESULT AND DISCUSSION

RESULT

A systematic literature search identified 305 records from four electronic databases: PubMed (68 articles), Scopus (74 articles), ScienceDirect (81 articles), and Google Scholar (82 articles). After removing 47 duplicate records, 258 articles remained for title and relevance screening. Of these, 134 articles were excluded during title screening due to irrelevance to the review objectives. The abstracts of 124 articles were then assessed, resulting in the exclusion of 66 studies because of inappropriate populations, outcomes, or study focus. Full-text eligibility assessment was performed on 58 articles, and 25 studies were excluded for reasons such as lack of specificity to mothers after cesarean section, exclusive focus on long-term postpartum depression, incomplete prevalence or determinant data, or classification as editorials and case reports. Ultimately, 33 studies met all eligibility criteria and were included in the narrative synthesis.

Characteristics of Included Studies

The included studies represented diverse methodological approaches, including cross-sectional studies, cohort studies, prospective cohort studies, randomized controlled trials, systematic reviews, meta-analyses, scoping reviews, and literature reviews. Most studies used the Edinburgh Postnatal Depression Scale (EPDS) as the primary screening instrument for postpartum emotional symptoms, while several studies additionally evaluated psychosocial stress, sleep quality, hormonal changes, operative burden, and social support factors. Although review-based articles were retained to strengthen contextual understanding and conceptual interpretation, the primary narrative synthesis mainly emphasized findings obtained from original observational and interventional studies to minimize evidence overlap and maintain methodological consistency. The methodological characteristics, analyzed determinants, and principal findings of the included studies are summarized in Table 2.

Prevalence of Early Postpartum Emotional Disturbance

Across the reviewed studies, emotional disturbances during the early postpartum period following cesarean section were consistently reported in clinically meaningful proportions, although prevalence estimates varied by study population, healthcare setting, follow-up duration, and measurement approach. Several studies identified elevated maternal sadness, anxiety, crying tendency, emotional hypersensitivity, mood instability, and increased depressive symptom scores during the first postpartum days to weeks. Meta-analytic evidence additionally demonstrated that postpartum emotional symptoms and depressive tendencies remain highly prevalent across different maternal populations and healthcare systems.

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Table 2. Summary of Studies Included in the Review

No.	Authors (Years)	Sample Characteristics	Study Design & Article Type	Measurement Instrument	Analyzed Risk Factors	Key Findings
1	Islam MJ et al.[16]	312 postpartum Mothers	Cross-sectional	EPDS	Maternal stress, social support, breastfeeding status	Low social support and maternal stress increase postpartum depression risk
2	Lumia et al.[17]	820 postpartum Mothers	Cross-sectional	EPDS	Previous anxiety history, complications, social stress	Antenatal anxiety strongly predicts higher postpartum EPDS scores
3	Landman et al.[6]	3.300 postpartum Mothers	Cohort Study	EPDS	Postpartum blues severity, antenatal depression, previous psychiatric history, psychosocial stress	Postpartum blues and antenatal depression predict later postpartum depression
4	Liu et al.[13]	401 postpartum Mothers	Systematic review and meta-analysis	EPDS	Pregnancy stress, antenatal depression, obstetric complications, low social support, socioeconomic status	Pregnancy stress, antenatal depression, and low support predict postpartum depression
5	Ruan & Wu[14]	200 postpartum Mothers	Cross-sectional	EPDS	Partner support, stress level, sociodemographic factors.	Lower partner support significantly increases postpartum depressive symptoms.
6	Chen et al.[18]	240 women undergoing elective cesarean delivery	RCT	EPDS	Intervention type, Cesarean delivery, Postoperative pain, Psychological condition of the mother	Esketamine reduced depressive symptoms after cesarean delivery
7	Amer et al.[19]	674 postpartum mothers	Cross-sectional	EPDS	Demographic factors, Obstetric factors, Infant-related factors, Psychosocial factors	Postpartum depression prevalence was 13.6% across varied countries.
8	Rezaie-Keikhaie et al.[7]	567 postpartum mothers	Systematic Review and Meta Analysis	EPDS	Sociodemographic factors, obstetric factors, Psychological and hormonal changes,	Pooled maternity blues prevalence was 39.0% across studies
9	Tambelli et al.[20]	37 postpartum mothers	Systematic Review and Meta Analysis	EPDS	Antenatal depression, History of major depressive disorder	Antenatal depression strongly predicts postpartum depression
10	Lantigua-Martinez et al.[21]	738 post partum mothers	Cohort	EPDS	Mode of delivery, Indication for unscheduled cesarean delivery, Maternal characteristics	No significant postpartum depression difference was found by delivery mode.
11	Sun et al.[9]	30,000–40,000 postpartum women	Systematic Review and Meta Analysis	EPDS	Obstetric and perinatal conditions, Mode of delivery: Vaginal delivery, Elective cesarean section	Emergency cesarean delivery increases postpartum depression risk.

12	Zedan et al.[22]	550 postpartum Mothers (aged 18-50 years)	Cross-sectional	EPDS	Sociodemographic factors, Maternal health status, Lifestyle factors, Psychosocial factors	Approximately 75% of mothers were at postpartum depression risk.
13	Hernández-Martínez et al.[11]	430 postpartum mothers	Cross sectional	EPDS	Mode of delivery, Obstetric interventions and complications, Perception of childbirth experience	Many women experienced post-traumatic stress after childbirth.
14	Shi et al.[23]	2,700 women undergoing cesarean section	Systematic review and meta-analysis	EPDS	Perioperative esketamine use, postoperative pain severity, anesthetic/analgesic strategies, psychological vulnerability	Prophylactic esketamine reduced postpartum depression and postoperative pain
15	Dadi et al.[24]	430 postpartum mothers	Systematic Review and Meta-analysis	EPDS	Maternal sociodemographic and health factors, Pregnancy and delivery complications	Postnatal depression increases low birth weight and preterm birth
16	Ren et al.[25]	308 pregnant women	RCT	EPDS	Cesarean delivery, antenatal depression, baseline EPDS scores, intraoperative esketamine exposure, demographic and obstetric variables	Intraoperative esketamine infusion reduced postpartum depression incidence
17	Lin et al.[12]	590 women aged 20–40 years	Prospective cohort study; original research article	EPDS	Maternal age, BMI, parity, income, education, history of anxiety/depression, pregnancy complications, antenatal anxiety/depression, social support, anesthesia-related variables, postoperative pain, early postpartum depressive symptoms	Postpartum depression prevalence reached 25.4% at six weeks.
18	Xu et al.[26]	150 women aged 18–40 years undergoing elective cesarean delivery	RCT	EPDS	perioperative esketamine pretreatment, postoperative pain.	Esketamine lowered EPDS scores and reduced postoperative pain after cesarean.
19	Murata et al.[27]	645 cesarean sections	Cohort study	EPDS/HADS	Type of cesarean section (elective vs emergency), anxiety, depression, psychological distress	Emergency cesarean mothers showed higher distress and depressive symptoms
20	Handini et al.[28]	209 Postpartum mothers	Cross-sectional	EPDS	Maternal age, husband support (social support)	Lower husband support increases postpartum depression risk
21	Cho et al.[29]	1654 postpartum mothers	Cross-sectional	EPDS	Social support level, parity, pregnancy loss, maternal psychosocial stress	Low social support significantly increased postpartum depressive symptoms among mothers.
22	Shorey et al.[30]	299 parents (mother–father dyads) during the postpartum	longitudinal cohort	EPDS	Parental stress, anxiety, social support, marital relationship, coping factors	Parental stress and low social support increase postpartum depression.

23	Li et al.[31]	310 postpartum Mothers	Cross-sectional	EPDS	Social & clinical factors	Low social support increases postpartum depression risk
24	Schiller et al.[15]	Pregnant postpartum women	Cohort	Hormonal assays	Hormonal fluctuations, estrogen decline, progesterone decline, postpartum mood symptoms	Hormonal fluctuations increase vulnerability to postpartum mood disorders
25	Yang et al.[32]	1,152 pregnant women followed from antepartum to postpartum	Cohort	PSQI/EPDS	Antepartum sleep quality, anxiety, depression, stress, maternal mental status	Poor antepartum sleep predicts higher postpartum depressive symptoms.
26	Jiménez-Barragan et al.[33]	1,070 women assessed during pregnancy and postpartum	Cross-sectional	EPDS	Sociodemographic factors, obstetric variables, previous mental health history, social support	Mental health history and low support increase postpartum risk
27	Wang et al.[34]	1,152 pregnant women	Prospective cohort study	EPDS/PSQI	Antepartum sleep quality, anxiety, depression, stress, maternal mental health	Poor pregnancy sleep quality increases postpartum depressive symptoms.
28	Li B et al.[35]	1,248 pregnant women	Prospective cohort study; original research article	EPDS	Fear of childbirth, perceived partner response, emotional support, prenatal stress	Fear of childbirth increases depression; partner response is protective.
29	Layton et al.[8]	Multi-country studies	Scoping review	EPDS	Socioeconomic status, lack of social support, gender inequality, violence exposure, prior mental illness, limited healthcare access	Perinatal mental health is influenced by individual and social factors
30	Fisher et al.[36]	Secondary data from multiple studies involving pregnant and postpartum women across ASEAN countries	Scoping review	EPDS	Socioeconomic status, low social support, intimate partner violence, cultural factors, limited healthcare access	Maternal depression across ASEAN is shaped by sociocultural factors.
31	Yokoyama et al.[10]	1,700 pregnant women	Cohort Study	EPDS	Mode of delivery (cesarean vs vaginal), maternal age, socioeconomic status, lifestyle factors	Cesarean section increases postpartum depressive symptom risk.
32	Hong & Buntup [37]	Secondary data from 37 studies involving pregnant and postpartum women across 8 ASEAN countries	Scoping review	EPDS	Socioeconomic status, low social support, intimate partner violence, cultural and regional factors, limited healthcare access	ASEAN maternal depression prevalence varies widely across populations.
33	Susanti et al.[38]	Literature-based studies	Literature review	EPDS	Psychological stress, low social support, hormonal changes, socioeconomic status, lack of partner support	High EPDS scores reflect multifactorial psychosocial and biological stress.

Psychosocial Determinants

Psychosocial determinants emerged as the most dominant determinant domain and were identified in most included studies. Frequently recurring psychosocial contributors included antenatal anxiety, previous depressive history, maternal stress, inadequate childbirth preparedness, low husband or family support, fear of childbirth, and broader socioeconomic burden. These psychosocial vulnerabilities consistently demonstrated strong associations with higher EPDS scores and reduced maternal emotional adaptation following cesarean delivery. Several studies further highlighted that insufficient partner support and social isolation substantially increased maternal psychological vulnerability during the puerperium. Women with previous emotional disorders or unresolved antenatal psychological distress tended to demonstrate greater emotional instability after operative birth compared with mothers who received adequate emotional preparation and social support.

Clinical and Operative Determinants

Cesarean-related clinical burden was identified as the second major determinant domain in the reviewed evidence. Emergency cesarean section, postoperative pain, delayed mobilization, traumatic childbirth perception, breastfeeding difficulties, sleep disruption, and prolonged postoperative recovery were consistently associated with increased maternal emotional symptoms. Mothers who underwent urgent operative procedures or experienced uncontrolled postoperative discomfort generally exhibited higher levels of anxiety and depressive symptoms compared to those who had elective cesarean delivery or a smoother postoperative recovery.Several randomized controlled trials included in this review demonstrated that perioperative esketamine administration significantly reduced the severity of depressive symptoms and postoperative pain intensity among women undergoing cesarean section. These findings suggest that effective postoperative symptom management can improve maternal emotional outcomes during the early puerperal period.

Biological and Physiological Determinants

Biological and physiological adaptation factors were also identified as significant contributors to postpartum emotional disturbance. Hormonal fluctuations, particularly the rapid postpartum decline in estrogen and progesterone levels, poor sleep quality, physical fatigue, and delayed restoration of maternal comfort, were consistently associated with increased emotional vulnerability. While these biological factors rarely acted in isolation, they intensified maternal emotional symptoms when combined with psychosocial burden and operative stress.

Overall Synthesis of Findings

In summary, the synthesized evidence indicates that postpartum emotional disturbance following cesarean section is a multidimensional maternal mental health issue resulting from the cumulative interaction of psychosocial vulnerability, operative clinical burden, and biological recovery processes. Among these domains, psychosocial vulnerability was the most consistently reported contributor across the reviewed studies.

DISCUSSION

The findings of this systematic review indicate that early postpartum emotional disturbance among mothers following cesarean section should be regarded not as a transient emotional response, but as an early manifestation of maternal psychological maladaptation that may progress into persistent postpartum psychological disorders (13). The evidence reviewed consistently demonstrated that the prevalence of early postpartum emotional disturbance remains moderate to high across diverse maternal populations, with several studies identifying substantial proportions of mothers at risk for depressive symptoms after childbirth (33). These results underscore that emotional instability after cesarean delivery represents a clinically significant maternal health concern requiring early professional recognition, particularly given that perinatal mental disorders are frequently underdetected in routine maternal care services (39).

A dominant and recurrent pattern identified across the included studies was the influence of psychosocial burden (17). Antenatal anxiety, prior depressive history, maternal stress, inadequate childbirth preparedness, and insufficient husband or family support were consistently associated with elevated Edinburgh Postnatal Depression Scale scores and increased postpartum depressive symptoms (19). These findings confirm that maternal emotional outcomes after cesarean section are strongly influenced by pre-existing psychological vulnerability and the

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availability of interpersonal support (14). Women undergoing operative delivery with unresolved fears, prior anxiety disorders, or limited partner reassurance may exhibit reduced coping resilience when managing postoperative pain and newborn care responsibilities (35). In this review, low husband support and broader social isolation emerged as consistent predictors, highlighting that postpartum adaptation is not solely an individual maternal process but also a socially mediated adjustment (31).

Beyond psychosocial determinants, the present review also identified cesarean-related clinical burden as an important aggravating factor (21). Several included studies demonstrated that emergency cesarean section was associated with higher anxiety, psychological distress, and depressive symptom scores compared with elective procedures or vaginal delivery (27). Emergency operative birth often occurs under urgent obstetric circumstances, leaving mothers with limited psychological readiness and a more traumatic childbirth perception (11). Furthermore, postoperative pain repeatedly appeared as a clinically meaningful contributor because uncontrolled pain interferes with sleep, breastfeeding initiation, mobilization, and maternal independence (12). This interpretation is strengthened by randomized clinical trials in the current review showing that perioperative esketamine administration significantly reduced postpartum depressive symptoms while simultaneously lowering postoperative pain intensity (26). Such findings indicate that surgical recovery and maternal mental well-being are closely interconnected rather than separate postpartum issues (18).

Another notable synthesis emerging from this review concerns the contribution of biological adaptation factors (15). Hormonal fluctuations, particularly rapid postpartum declines in estrogen and progesterone, were reported to increase susceptibility to mood instability, while poor antepartum and postpartum sleep quality consistently predicted higher depressive symptom scores (32). Physiological fatigue, delayed mobilization, and fragmented maternal rest after cesarean surgery may reduce emotional regulation capacity and intensify crying spells, irritability, and anxiety during the early puerperal period (33). Therefore, the onset of early postpartum emotional disturbance after cesarean section appears to result from the interaction between biological stress responses and pre-existing psychosocial strain rather than from a single isolated determinant (15).

In summary, this systematic review confirms that early postpartum emotional disturbance after cesarean section is a multidimensional maternal mental health issue, with psychosocial vulnerability serving as the primary trigger and operative clinical stress and postpartum biological burden acting as reinforcing contributors (8). These findings suggest that routine post-cesarean maternal care should extend beyond surgical wound monitoring and physical recovery (40). Early psychological screening, effective pain management, anticipatory counseling, and family-centered emotional support should be incorporated into postpartum services, consistent with current international recommendations that emphasize standardized postpartum mental health surveillance and timely intervention pathways (41).

CONCLUSION

This systematic review demonstrates that mothers after cesarean section are vulnerable to early postpartum emotional disturbance resulting from the interaction of psychosocial stress, cesarean-related clinical burden, and biological recovery processes. Antenatal anxiety, previous depressive symptoms, inadequate husband support, postoperative pain, hormonal fluctuation, and sleep disturbance were the most consistently reported determinants. These findings underline that postpartum care should extend beyond routine physical observation by integrating early maternal mental health screening, effective postoperative symptom control, and stronger family-based emotional support in order to reduce the risk of persistent postpartum psychological disorders.

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CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest related to this study.

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AUTHOR'S CONTRIBUTION STATEMENT

All author contribution in draft, revision in manuscript.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

The authors used language editing assistance during manuscript preparation. No AI-generated interpretation or automated data analysis was used in the conduct of this study.

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