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# PERINATAL MOOD AND ANXIETY DISORDERS AND DEVELOPMENTAL OUTCOMES IN TODDLERS: A SCOPING REVIEW

*Gangguan Mood dan Kecemasan Perinatal dan Hasil Perkembangan pada Balita: Scoping Review*

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***ABSTRAK***

*Kesejahteraan psikologis perinatal memainkan peran penting dalam tahap awal perkembangan anak. Memahami hubungan antara kesehatan mental ibu dan sifat perkembangan anak yang beragam merupakan titik fokus penting untuk intervensi dini. Studi ini bertujuan untuk memetakan badan penelitian saat ini tentang hubungan antara suasana hati perinatal dan gangguan kecemasan (PMAD) dan keterlambatan perkembangan pada balita. Tinjauan cakupan ini dilakukan dengan menggunakan daftar periksa PRISMA-ScR dan kerangka kerja Population-Concept-Context (PCC). Basis data elektronik yang dicari termasuk PubMed, ScienceDirect, EBSCO, Research Rabbit, dan Google Scholar. Kriteria inklusi terdiri dari artikel penelitian asli yang diterbitkan antara 2013 dan 2023 yang membahas gangguan mood dan kecemasan perinatal, melibatkan wanita hamil atau orang tua dari anak-anak berusia 0-5 tahun, dan menggunakan desain kohort, cross-sectional, atau quasi-experimental. Sebanyak 16 artikel memenuhi kriteria inklusi, memberikan wawasan dari negara maju dan berkembang. Analisis tersebut mengungkapkan hubungan yang konsisten antara suasana hati perinatal dan gangguan kecemasan dan keterlambatan perkembangan pada balita. Temuan utama mencakup berbagai dimensi PMAD (misalnya, simtomatologi, tingkat keparahan dan waktu paparan, faktor risiko, peristiwa kehidupan yang signifikan, dan dukungan sosial) serta sifat keterlambatan perkembangan (misalnya, faktor risiko orang tua dan domain keterlambatan tertentu). Temuan ini menggarisbawahi pentingnya skrining dini dan penerapan intervensi yang ditargetkan selama kehamilan dan periode pasca persalinan.*

***Kata kunci**: depresi, intervensi, kecemasan, perinatal, perkembangan anak*

**ABSTRACT**

Perinatal psychological well-being plays a crucial role in the early stages of child development. Understanding the relationship between maternal mental health and the multifaceted nature of child development represents a critical focal point for early intervention. This study aims to map the current body of research on the association between perinatal mood and anxiety disorders (PMADs) and developmental delays in toddlers. This scoping review was conducted using the PRISMA-ScR checklist and the Population-Concept-Context (PCC) framework. The electronic databases searched included PubMed, ScienceDirect, EBSCO, Research Rabbit, and Google Scholar. Inclusion criteria comprised original research articles published between 2013 and 2023 that addressed perinatal mood and anxiety disorders, involved pregnant women or parents of children aged 0–5 years, and utilized cohort, cross-sectional, or quasi-



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experimental designs. A total of 16 articles met the inclusion criteria, providing insights from both developed and developing countries. The analysis revealed a consistent association between perinatal mood and anxiety disorders and developmental delays in toddlers. Key findings included various dimensions of PMADs (e.g., symptomatology, severity and timing of exposure, risk factors, significant life events, and social support) as well as the nature of developmental delays (e.g., parental risk factors and specific domains of delay). These findings underscore the importance of early screening and the implementation of targeted interventions during pregnancy and the postpartum period.

**Keywords:** anxiety, child development, depression, intervention, perinatal

## INTRODUCTION

A concerning global challenge is evident: approximately 250 million children under five, representing 43% of the worldwide population in this age group, are at a heightened risk of failing to meet developmental milestones [1]. Among these, toddlers defined as children aged 1–3 years are particularly vulnerable to experiencing delays in core developmental domains such as language acquisition, social-emotional regulation, and motor skills, especially in low-resource settings [2]. Recent global estimates indicate that developmental delays in toddlers are significantly associated with limited early stimulation, malnutrition, and insufficient caregiver responsiveness [3].

This alarming statistic highlights the scale of the problem and accentuates the urgent imperative for focused scholarly inquiry and intervention strategies. The toddler period represents a sensitive phase wherein neuroplasticity peaks, making early identification and intervention for developmental risks both critical and potentially transformative [1]. The active role of parents/guardians in early childhood care is needed. Research has found that there is a relationship between parental care and early childhood development; the better the parenting, the better the child development. However, mental health challenges in mothers can affect the quality of parenting, which in turn impacts child development [4]

Within this context, perinatal mood and anxiety disorders (PMAD) were identified as a significant problem, with existing figures showing a disproportionate impact on women. The World Health Organization (WHO) reports that 13.5% of women worldwide suffer from these conditions, exceeding the prevalence of that of men [5]. Approximately, 20–24% of pregnant and postnatal women experience some types of mental disorder [6], the most common being depression or anxiety [7]. The prevalence of mothers with perinatal mental disorders common in low- and lower-middle-income countries is 15.6% in pregnant women and 19.8% in women who have given birth [8]. In Indonesia, the prevalence of common mental disorders in pregnant women is 12.6%, and 10.1% in postnatal women [9]. This difference becomes more pronounced during the perinatal phase, a condition that is more common in low- and middle-income countries. Mothers in low- and middle-income countries (LMICs) are at higher risk of mental health disorders [10], and for perinatal depression, the highest rates are found in lower middle-income countries at 25.5% [7]. In addition, postpartum depression affects 10% to 15% of mothers worldwide, which is an important focal point for intervention [2].

Emerging research increasingly affirms that maternal PMADs exert a direct and measurable impact on toddlers' developmental trajectories. Exposure to maternal depression or anxiety during the perinatal period has been linked with delays in language development, reduced emotional regulation capacity, impaired attachment formation, and elevated risks of behavioral disorders in toddlers [2],[11]. Such impairments, when unaddressed, can persist into later childhood, affecting school readiness and long-term well-being.

The existing body of literature indicates that the first year of life as a crucial window for developmental interventions because the brain's enhanced receptivity to


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environmental inputs occurs during this period [12]. Research substantiates that strategies to improve early childhood learning and bolster parent-child bonds offer significant advancements across cognitive, linguistic, motor, and socio-emotional domains. Nonetheless, the adverse effects of maternal depression and anxiety on children's cognitive growth, social engagement, and adaptability to their surroundings call for a holistic approach to maternal and child mental health [13].

Despite worldwide initiatives aimed at mitigating mental health challenges, a pronounced disparity remains in the accessibility and execution of mental health resources, especially at the primary healthcare level. This discrepancy poses a formidable obstacle to effectively implementing mental health policies and interventions [13] [14]. In Indonesia and similar LMICs, where structural limitations in maternal mental health services remain prevalent, the risk of unrecognized and untreated PMADs poses a silent yet significant developmental threat to children under three years of age [15].

Given this context, there is a notable gap in the literature regarding the developmental consequences of maternal PMADs specifically during the toddler years, an area that remains underexplored in LMIC settings. This scoping review endeavors to methodically delineate the current state of knowledge regarding the influence of maternal PMADs on toddlers' developmental trajectories. By adopting a scoping review approach, this investigation systematically collates and synthesizes prevailing knowledge, pinpointing fundamental concepts, theoretical frameworks, and gaps in the existing research landscape. Through this examination, the review aims to underscore the paramount importance of maternal mental health in shaping child development, identifying pivotal areas for forthcoming research and intervention in this critical domain.

## METHODS

This scoping review was conducted in accordance with the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) guidelines to ensure comprehensive coverage of key concepts, terminology, and reporting components [16]. This methodological approach enabled a systematic and transparent mapping of the current evidence.

Our primary research question was: *"What is the current evidence on the impact of perinatal mood and anxiety disorders on toddler development?"* In this study, a toddler is operationally defined as a child aged 0 to 5 years. To structure our search and selection process, we employed the PCC framework (Population, Concept, Context), as outlined in Table 1.

**Table 1. PCC Framework**

| Framework | Keywords |
|---|---|
| Population | Mother and Child |
| Concept | Mood disorders and anxiety |
| Context | Child Development |

Before initiating the full review, our study protocol was evaluated by two independent experts in the fields of perinatal mental health and early childhood development. Although the protocol was not registered, this expert feedback played a critical role in refining our search strategy and selection criteria, serving as a form of preliminary validation.

The inclusion criteria were limited to original research articles published between 2013 and 2023, written in English, and available in full text. We excluded review articles, study protocols, non-English publications, and studies that did not directly examine the relationship between perinatal mood or anxiety disorders and toddler development.

We conducted a comprehensive literature search across several databases, including PubMed, EBSCO, Science Direct, Research Rabbit, and Google Scholar. The search strategy was developed using a combination of keywords aligned with the PCC framework, including:


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(((((perinatal mood) AND (anxiety disorders)) OR (depression disorder*)) OR (postpartum*)) OR (antenatal)) AND (child development)

The article selection process followed a structured screening workflow, as illustrated in Figure 1 (PRISMA Diagram). Duplicates were removed, and studies were screened by title and abstract before proceeding to a full-text review to assess eligibility based on the inclusion criteria. Data from eligible studies were extracted and organized using a detailed data charting template created in Microsoft Excel. Key variables included author(s), year of publication, country, study objectives, research design, study population, instruments used, and main findings. Articles were coded with relevant keywords and grouped thematically to identify patterns and subthemes.

The findings are presented descriptively and narratively, allowing for a systematic analysis and mapping of the literature on the impact of perinatal mood and anxiety disorders on toddler developmental outcomes. The data synthesis highlights recurring themes as well as existing gaps in the evidence base. This review introduces a methodological novelty by integrating the PRISMA-ScR and PCC frameworks in a unified design, applying thematic data charting techniques, and consistently operationalizing the toddler age range (0–5 years), which is often inconsistently defined in existing literature. Additionally, expert feedback, though not part of a formally registered protocol, contributed to the methodological rigor of the review through an informal but valuable appraisal process.

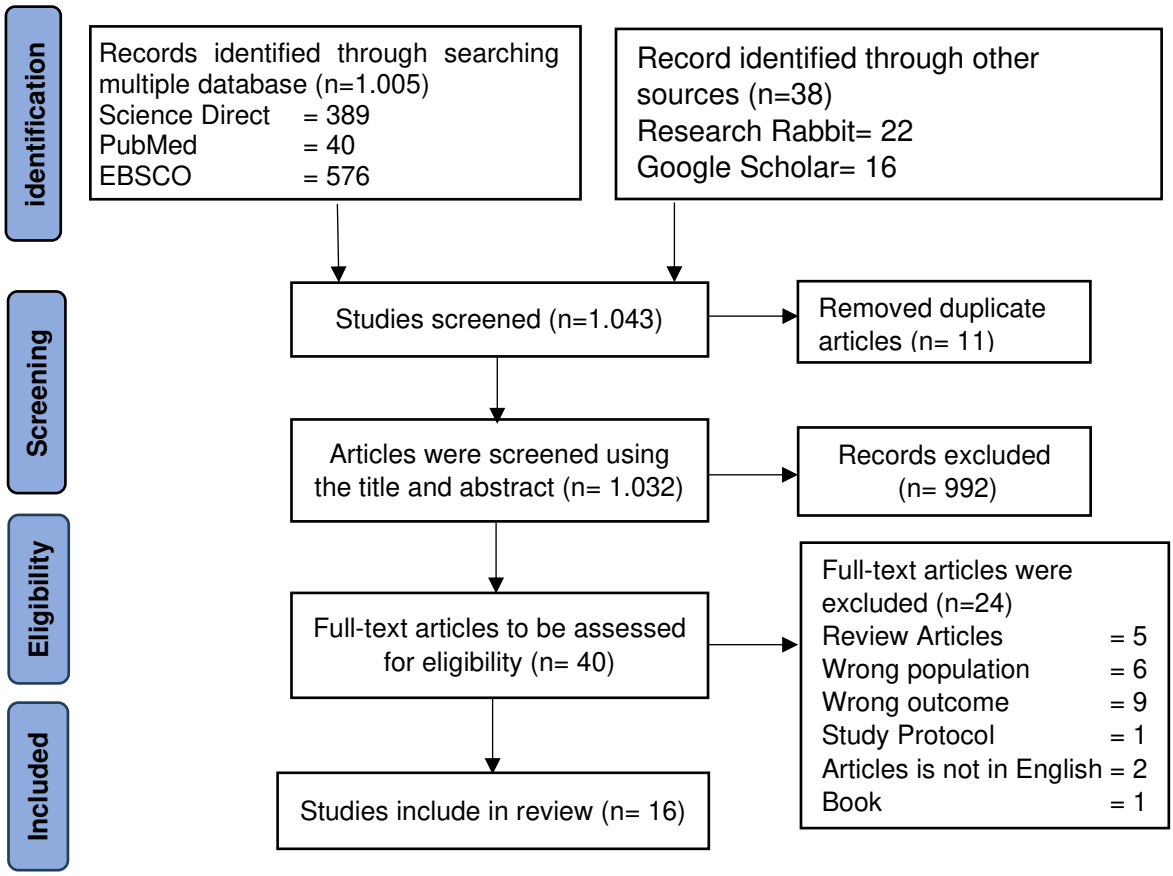


**Figure 1. PRISMA Flowchart**

Figure 1 shows the overall article selection process. After reviewing the results of the inclusion and exclusion criteria in all articles. We carried out a keyword search across databases and search engines and obtained 1,043 articles. We then entered all the articles into Mendeley and removed 11 duplicates. Next, we manually screened the titles



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and abstracts of 1,032 research articles and excluded 992 that did not meet our inclusion and exclusion criteria. After screening 40 articles, we excluded 24 that did not align with our review objectives and identified 16 articles that were eligible for inclusion in our review.

## RESULT

Data were extracted from the selected studies and organized using chart tables to extract relevant information from the included evidence sources. The data charting process consists of organising bullet points such as the authors, methodology, location, sample, and findings (Table 2).

**Table 2. Data Charting**

| Authors, Year/ Country | Sample | Research Design | Instruments | Findings |
|---|---|---|---|---|
| Prenoveau, et al., 2017 / England [17] | Purposive Sampling / 296 mother-child pair participants. | Cohort | EPDS, GAD, ECBQ, and CBCL | Maternal anxiety and depressive symptom severity during the two years postpartum were associated with poor behavior and negative emotions in children at 24 months. |
| Bagur, et al., 2022 / Spain [18] | Purposive, non-probabilistic Sampling / 135 families | Cross-Sectional | Health-Related Quality of Life SF-12, the Anxiety and Depression Scale, CBCL 1½–5, and Socio-demographic Questionnaire | Parents of children with disabilities have higher rates of mental health disorders. |
| Santos, et al., 2014 / Brazil [19] | Population-Based Cohort Sampling / 4,231 birth mothers. | Cohort | SRQ-20 and DAWBA | Symptoms of mood disorders in pregnancy and three months postpartum have long-term effects on children's mental health. |
| Petzoldt, et al., 2016 / Germany [20] | Regional epidemiological Sampling / 286 mother-infant pairs | Cohort | CIDI-V and Baby-DIPS | Maternal anxiety disorders are associated with infant birth weight and feeding patterns. Infant sleep problems are associated with maternal depression. |
| Tuovinen, et al., 2018 / Finland [21] | Convenience Sampling / 2,231 mothers | Cohort | CES-D, BDI-II, and ASQ | Maternal depression during pregnancy, the first year postpartum, and the following year is associated with poorer child neurodevelopment. |
| Comaskey, et al., 2017 / Canada [22] | Total Population Sampling / 18,331 mother-child | Cohort | EDI | Repeated exposure to MDAD in early childhood is risky for social, emotional, and physical development. MDAD in the family context (age, single parent, socioeconomic status) is at high risk for impaired language and cognitive development in children. MDAD in the prenatal period is riskier than other perinatal periods. |
| Letourneau, et al., 2019 / Canada [23] | Purposive Sampling / 634 families | Cohort | EDS and CBCL | Maternal depression and depression experienced by both mothers and fathers were associated with children's internalizing behavior. Externalizing |


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| Authors, Year/ Country | Sample | Research Design | Instruments | Findings |
|---|---|---|---|---|
| | | | | behavior was only predicted to be associated with maternal depression. |
| Junge, et al., 2017 / Norway [24] | Population-based sampling / 1,235 mother-child | Cohort | EPDS and ASQ-SE | Social-emotional problems in two-year-old children are closely related to maternal depression during pregnancy. |
| Ibanez, et al., 2015 / France [25] | Purposive sampling / 1719 mothers - 1,380 children were two years old, and 1,227 children were three years old. | Cohort | EPDS, CES-D, STAI, CDI, and ASQ | A strong, significant association between maternal anxiety around birth and poorer child cognitive development at ages 2 and 3 years was found. |
| Kingston, et al., 2018 / Canada [26] | Population-based sampling / 1983 participants | Cohort | EPDS and CBCL-based NLSCY | Children's externalizing and internalizing behaviors are associated with persistent maternal depressive symptoms. |
| Rogers, et al., 2023 / Australia [27] | Purposive sampling / 1,539 mothers and 793 mother-baby pairs | Cohort | EPDS, DASS-21, CIDI, and Bayley-III | Symptoms of perinatal depression and anxiety in mothers can negatively impact infant development. |
| Shuffrey, et al., 2022 / South Africa [28] | Purposive sampling / 600 mother-baby pairs | Cohort | EPDS, STAI, BITSEA, BSID-III ST | Children born to mothers with prenatal depression and trait anxiety have social-emotional problems. |
| Fransson, et al., 2020 / Sweden [29] | Purposive sampling / 1,093 mother-infant pairs | Cohort | EPDS, STAI, PBQ, and CBL | Maternal persistent antenatal depression is associated with children's behavioral difficulties at 18 months of age. |
| Ali, et al., 2013 / Pakistan [30] | Purposive sampling / 420 pregnant women | Quasi-Experimental | Aga Khan (AKUADS), structured interview based on DSM-IV, and ECD | Postpartum anxiety and depression are associated with adverse effects on children's mental development across all five subscales: socio-emotional, language, cognitive, gross motor, and fine motor. |
| Tran, et al., 2013 / Vietnam [31] | Two-stage sampling / 497 pregnant women | Cohort | EPDS and BSID | Antenatal iron deficiency anemia (IDA) and common mental disorders (CMD) had adverse effects on children's cognitive development. |
| Meiser, et al., 2015 / Germany [32] | Purposive sampling / 61 mother-child pairs | Cohort | SCID-I structured clinical interview and SETK 3–5a | Children of mothers suffering from postpartum depression or anxiety had impairments in recognizing facial expressions of basic emotions. |

Description: The full names of each instrument and variable measurement are presented in Table 3 at the following link:https://drive.google.com/file/d/1z-cFqqZ6xBxwPQnRRpd_38o_aduAbxQ_/view?usp=sharing



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Table 2 provides a comprehensive summary of the 16 reviewed studies, using the Joanna Briggs Institute (JBI) framework for data charting and extraction [33]. The majority (88%) employed cohort designs to longitudinally assess developmental impacts of maternal mental health, with notable exceptions including a cross-sectional study [18] and a quasi-experimental design [31]. The latter raised ethical concerns due to the lack of audio-recorded consent, contrary to best practices for non-literate participants. Study [22], with a large sample size, reinforced the importance of adequate statistical power, consistent with findings in [34]. The studies addressed diverse maternal mental health topics: 7 explored depressive and anxiety symptoms, 6 focused on perinatal depression, and the rest on broader issues. Most participants were mothers in the third trimester to one year postpartum, with children aged 24–36 months. Socioemotional and behavioral disorders were the most frequently reported child outcomes, appearing in 43% of studies.

Geographical distribution was imbalanced: 75% of the studies originated from high-income countries (e.g., UK, Spain, Canada, Germany), while only 25% came from LMICs (Brazil, South Africa, Pakistan, Vietnam), highlighting the need for broader global representation. Methodologically, cohort studies dominated (14 of 16), while cross-sectional [18] and quasi-experimental [30] designs were underrepresented. This suggests a need for more diverse methods to explore causality and short-term impacts. Two primary themes emerged: (1) symptoms and impacts of perinatal mood and anxiety disorders (PMADs), and (2) developmental delays associated with PMADs, with further sub-themes under each category.

**Symptoms and Impacts of Perinatal Mood and Anxiety Disorders (PMADs)**

**Symptomatology**

PMADs in mothers are characterized by a wide spectrum of symptoms, including persistent low mood, anhedonia, psychomotor changes, sleep disturbances, fatigue, suicidal ideation, and cognitive impairment [23]. Postnatal depression often results in reduced maternal responsiveness, flat affect, and limited emotional expressivity toward the infant [32], with sleep-related problems frequently reported among affected mothers [20]. Anxiety is classified into state (situational) and trait (dispositional) forms [19][25].

**Severity, Timing, and Risk Factors**

The severity and timing of PMADs significantly influence child outcomes. Chronic maternal anxiety and depression within the first two years postpartum are associated with emotional and behavioral disturbances in children aged 2–4 years [18] [17]. Prenatal and early postnatal depression also elevates children's risk for mental health disorders up to six years later [19]. Elevated maternal cortisol and placental CRH levels during prenatal depression suggest a fetal programming effect [22],[31]. Depression risk is higher among mothers with low education, high parity, low income, single parenthood, or continued tobacco/alcohol use [28], while prior mental illness and prenatal smoking are strong predictors of anxiety [25],[26],[35].

**Incidence and Predictive Outcomes**

The prevalence of PMADs is considerable: 24.6% during pregnancy and 22.5% at three months postpartum [19]. Incidence is higher among younger, single mothers, those without partner support, or with preterm and low-birthweight infants [36]. PMADs during pregnancy and postpartum substantially increase the risk of psychiatric disorders in children by up to 2.3 times. Maternal depressive symptoms occurring anytime within the first three years postpartum continue to show adverse child developmental effects [37] [25].

**Protective Role of Support**

Although paternal mental health appears to have limited direct effects, its influence may be mediated through reduced maternal support [27]. Lack of access to early intervention and limited social support exacerbate the developmental risks for children


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[23]. Maternal support systems, particularly in developing countries, are crucial for preventing long-term neurobehavioral impairments [28].

**Developmental Delays Associated with PMADs**

**Parental Risk and Child Outcomes**

Maternal depression and anxiety impair parenting practices such as stimulation (e.g., singing, reading, playing), which are critical for early development [25]. Postnatal depression is linked to disrupted bonding and the emergence of both internalizing (e.g., withdrawal) and externalizing (e.g., aggression) behaviors in children from as early as 18 months [23]. Combined parental PMADs further intensify behavioral disturbances [30] [29]. Symptoms like brooding and emotional withdrawal reduce maternal sensitivity and empathy, which negatively affect caregiving quality [24].

**Types and Timing of Developmental Delays**

PMADs are associated with cognitive, emotional, and motor developmental delays. Cognitive deficits are observable as early as six months and double in prevalence by 12 months in children of depressed mothers [38] [29][17]. Children exposed to chronic maternal depression are at higher risk of neurodevelopmental disorders, especially in language, socio-emotional, and motor domains [38] [25]. Low maternal education and older maternal age further increase the risk of motor delays [39] [29]. Perinatal depression also significantly heightens the likelihood of children experiencing difficulties in emotional recognition, feeding, sleeping, and crying regulation [31] [20].

## DISCUSSION

This scoping review identifies two central themes that recur across the analyzed literature: symptoms of perinatal mood and anxiety disorders (PMADs), and developmental delays associated with perinatal depression or anxiety. PMADs, such as depression and anxiety, tend to manifest during both the antenatal and postnatal periods, significantly affecting maternal behavior and psychological well-being [40], [41]. These mental health conditions not only impair maternal functioning but also have cascading effects on child development. Early identification and intervention are therefore critical, particularly given that untreated PMADs may lead to long-term consequences for both mother and child [37] [29]. Most studies included in this review implemented validated instruments to detect PMAD symptoms, with the Edinburgh Postnatal Depression Scale (EPDS) by [42] being the most frequently utilized tool. Although EPDS is not diagnostic, it is widely accepted due to its validity and ease of use in screening postpartum depression in various cultural contexts.

Notably, the incidence of PMADs is disproportionately higher in low- and middle-income countries (LMICs), yet research from these settings remains limited. While 75% of studies in this review originated from high-income countries such as the United Kingdom, Spain, Canada, and Germany, only a quarter were conducted in LMICs, including Brazil, South Africa, Pakistan, and Vietnam. According to the World Health Organization (WHO), around 15.6% of women in LMICs experience PMADs during pregnancy, increasing to 19.8% postpartum, which is significantly higher than the global average. Despite this, studies from LMICs remain underrepresented in the literature, highlighting an urgent need for more equitable and globally representative research. Recent findings [43] confirm that maternal mental health issues in LMICs are significantly associated with adverse child cognitive outcomes, especially in low-resource settings. This discrepancy suggests a critical research gap that should be addressed by future studies to ensure effective global maternal and child health interventions.

A significant pattern emerging from the data is the compounded effect of both antenatal and postnatal depression on child development. Studies suggest that when depression persists across both perinatal stages, the negative impact on a child's socioemotional development is more severe than in cases where depression occurs in


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only one phase. Further support this observation, noting that cumulative maternal depression can disrupt mother-infant bonding, impair emotional regulation in children, and increase behavioral risks. This reinforces the importance of longitudinal monitoring and holistic interventions that span from pregnancy through the early years of parenting. While most current interventions focus on the postnatal stage, these findings underscore the need for preventive strategies that begin during pregnancy. Moreover, the data support the notion that perinatal depression is not an isolated condition but part of a dynamic and recurring cycle that demands sustained, integrated care [44].

Additionally, this review underscores a notable under-emphasis on paternal mental health and social support systems in the existing literature. Although maternal mental health is the primary focus, a growing body of evidence suggests that father involvement and robust social support networks play a vital role in moderating PMADs. Lack of partner support, financial stressors, and social isolation exacerbate maternal mental health risks, especially in vulnerable populations. Conversely, strong social support systems act as protective buffers, enhancing maternal resilience and promoting healthier developmental trajectories in children. This aligns with recent WHO guidelines recommending the integration of family-centered approaches into maternal health care, including partner engagement and community-based support mechanisms. Expanding the research scope to include paternal roles and structural supports could offer more holistic insights and intervention pathways [45]

Despite its contributions, this review is not without limitations. The decision to include only open-access, English-language articles may have excluded relevant findings published in other languages or in subscription-based journals. Furthermore, the predominance of cohort designs (88% of studies) suggests a methodological concentration that could be broadened by incorporating more diverse approaches, such as mixed-methods or realist evaluations. Nevertheless, the review's focus on mothers of children aged 0–5 years ensures that the findings are highly relevant to early childhood development. To address the gaps identified, future research should prioritize longitudinal and cross-cultural studies, particularly in underrepresented LMIC contexts. Policymakers and practitioners are encouraged to integrate routine PMAD screening using culturally adapted tools such as EPDS into standard maternal and child healthcare services. In tandem, mental health support and community-based interventions must be scaled to reflect the global burden of PMADs and their intergenerational consequences.

**Scientific Contribution and Novelty**

This review contributes to the scientific discourse by synthesizing recent literature (2013–2023) that highlights the bidirectional and cumulative effects of prenatal and postnatal depression on child development, particularly in resource-limited settings. Unlike previous reviews that often isolate pre- or postnatal conditions, this study underscores the combined and continuous impact of PMADs across the perinatal period. Additionally, this review sheds light on the underexplored role of paternal involvement and social support systems as protective buffers against the adverse effects of maternal depression. Novel insights from low-income contexts, such as those reported by [34], suggest the urgency for context-specific mental health interventions tailored to socioeconomically vulnerable populations. Based on the findings, we recommend the integration of routine community-based screenings for PMADs into primary health services, especially targeting high-risk populations. Furthermore, capacity-building programs for primary healthcare providers should be prioritized to improve early detection and intervention for PMADs. These targeted efforts are expected to enhance maternal well-being and foster optimal developmental outcomes in young children, addressing critical mental health gaps in developing countries.


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## CONCLUSION

This scoping review aimed to map symptoms of perinatal mood and anxiety disorders (PMADs) and examine their association with developmental delays in children aged 0–5 years. The findings show that depressive and anxiety symptoms commonly occur during both pregnancy and the postpartum period, with higher prevalence in low- and middle-income countries, although research in these settings remains limited. The Edinburgh Postnatal Depression Scale (EPDS) was the most frequently used and validated screening instrument. Maternal mental health was found to significantly affect early child development, particularly emotional and behavioral outcomes. Children of mothers with persistent depression were reported to have up to six times greater risk of emotional developmental delays, including internalizing (e.g., withdrawal, anxiety) and externalizing behaviors (e.g., hyperactivity, aggression). Additionally, limited partner involvement and insufficient psychosocial support were identified as factors that further increase developmental risks in children.

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