

# INPLASY

## The association between pregnancy-related anxiety and maternal and infant health outcomes: A systematic review

INPLASY2024120025

doi: 10.37766/inplasy2024.12.0025

Received: 6 December 2024

Published: 6 December 2024

Amathullah, AS; Rishard, M; Hettigoda, K; Wijesinghe, MSD; Rajaratne, K.

### Corresponding author:

Ahamad Salman Amathullah

amathullahsalman99@gmail.com

### Author Affiliation:

Faculty of Graduate Studies,  
University of Colombo.

### ADMINISTRATIVE INFORMATION

**Support** - No financial support.

**Review Stage at time of this submission** - Completed but not published.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY2024120025

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 6 December 2024 and was last updated on 20 May 2026.

### INTRODUCTION

**Review question / Objective** • What are the impacts of pregnancy-related anxiety on maternal and infant health outcomes?

• How do these associations vary across different socio-economic settings?

**Rationale** Previous systematic reviews have examined maternal anxiety; however, several gaps remain. Many reviews have mainly included studies from high-income countries (HICs) or only a limited number from low- and middle-income countries (LMICs), reducing their relevance to low-income settings. In addition, existing reviews have often focused on specific outcomes such as preterm birth, low birth weight, or child emotional health rather than considering a broader range of maternal and infant health outcomes. Individual study findings are also inconsistent. Therefore, this review aims to synthesise evidence on the association between pregnancy-related anxiety and maternal and infant health outcomes across

HIC and LMIC settings while identifying key trends, inconsistencies and evidence gaps.

**Condition being studied** Pregnancy is a significant period in a woman's life that brings about physical, emotional, mental, and social change. Although it is often seen as a joyful time, many women experience anxiety and distress, which can negatively affect the health of both mothers and children [1]. Pregnancy-related anxiety (PRA) refers to the specific worry and stress a pregnant woman feels about matters such as the baby's development, changes in her body, breastfeeding, labour, and delivery [2]. PRA is distinct from general anxiety, as it focuses entirely on pregnancy-related concerns and has specific impacts on health outcomes.

Pregnancy-related anxiety is a particularly serious issue in low- and middle-income countries (LMICs). Factors such as poverty, cultural attitudes, gender discrimination, limited healthcare services, and stigma surrounding mental health issues contribute to a higher risk of PRA in these

settings [3]. Despite this, most research on PRA has been conducted in high-income countries, where healthcare systems and mental health resources are better developed. This makes it difficult to fully understand the effect of PRA on LMICs.

## METHODS

**Search strategy** Search terms included a combination of keywords such as “antenatal anxiety,” “maternal anxiety,” “prenatal anxiety,” “pregnancy-related anxiety,” “birth outcomes,” “low birth weight (LBW),” “preterm birth,” “gestational age,” “maternal health outcome,” “infant health outcome,” “fetal outcome,” and “neonatal health outcome”.

**Participant or population** No patients are utilized. Previous literature papers were utilized.

**Intervention** Not applicable.

**Comparator** Not applicable.

**Study designs to be included** Cohort studies/ observational studies.

**Eligibility criteria** Studies published between 2015 and 2025, written in English, conducted in both HICs and LMICs as classified by the World Bank, and focused on PRA and its association with maternal and/or child health outcomes will be included. Both quantitative and qualitative studies were considered eligible for inclusion in the study. Exclusion criteria will include review articles, editorials, conference abstracts, commentaries, articles unrelated to PRA or health outcomes, and articles not available in full text or written in English.

**Information sources** A comprehensive search strategy will be implemented across three databases for which the authors have full access: PubMed, SCOPUS, and ScienceDirect. Reference lists of included studies and relevant systematic reviews will also be manually searched to identify additional eligible studies.

**Main outcome(s)** Not applicable.

**Additional outcome(s)** Not applicable.

**Data management** Search results will be imported into Rayyan, and duplicates will be removed. Titles and abstracts will be screened for eligibility, followed by full-text screening of potentially relevant articles. Data from included studies will be

extracted into a standardised Microsoft Excel sheet. Extracted data will include study characteristics, such as country, income setting, sample size, pregnancy-related anxiety assessment tool, maternal and infant outcomes, and statistical significance values. Disagreements or uncertainties during screening and extraction will be resolved through discussion among the review team.

### Quality assessment / Risk of bias analysis

Quality assessment of the cohort and case-control studies will be performed using the Newcastle-Ottawa Scale (NOS), and the Appraisal tool for Cross-sectional studies (AXIS) will be used to assess the cross-sectional studies.

**Strategy of data synthesis** Owing to heterogeneity in study designs, populations, pregnancy-related anxiety measures, outcomes, timing of assessment, and statistical reporting, a meta-analysis will be deemed infeasible. Therefore, a narrative synthesis will be conducted to summarise the findings. The synthesis will focus on the association between PRA and maternal and infant health outcomes in High Income Countries and Low- Middle Income Countries.

**Subgroup analysis** Not applicable.

**Sensitivity analysis** Not applicable.

**Language restriction** The language is only English.

**Country(ies) involved** Sri Lanka.

**Other relevant information** The review provides the main tables on summary about the articles, PRISMA flowchart, and risk bias assessment. Further, as supplementary information, a detailed description of search strategies and the PRISMA checklist are provided.

**Keywords** Pregnancy-related Anxiety, maternal health outcomes, infant health outcomes, high-income countries, low-middle income countries.

**Dissemination plans** By publishing the Systematic literature in reputed journal.

### Contributions of each author

Author 1 - Ahamad Salman Amathullah - The author conceptualized and planned this review and conducted the preliminary literature search, summarized the findings, and drafted the manuscript. Faculty of Graduate Studies, University of Colombo, Sri Lanka.

---

Email: amathullahsalman99@gmail.com

Author 2 - Mohamed Rishard - The author conceptualized and planned this review. Further, reviewed the article and provided the corrections and comments. Department of Obstetrics and Gynaecology, Faculty of Medicine, University of Colombo, Sri Lanka

Email: rishi7875@yahoo.com

Author 3 - Kanthi Hettigoda - The author conceptualized and planned this review. Further, reviewed the article and provided the corrections and comments. Department of Psychology, Faculty of Arts, University of Peradeniya, Sri Lanka

Email: kanthihettigoda@gmail.com

Author 4 - Millawage Supun Dilara Wijesinghe - The author contributed in the analysis and interpretation of the data for the work and reviewed the article and provided the corrections and comments. Family Health, Nutrition Communication & Behaviour Research Unit, Health Promotion Bureau, Ministry of Health, Sri Lanka

Email: supun.dilara@gmail.com

Author 5 - Kavinda Rajaratne - Department of Obstetrics and Gynaecology, Faculty of Medicine, University of Colombo, Sri Lanka