

**Effects of yogic postures on stress, and postpartum depression among pregnant women with low back pain - a literature review**

INPLASY202560060

doi: 10.37766/inplasy2025.6.0060

Received: 15 June 2025

Published: 15 June 2025

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**ADMINISTRATIVE INFORMATION****Support -** No.**Review Stage at time of this submission -** Preliminary searches.**Conflicts of interest -** None declared.**INPLASY registration number:** INPLASY202560060**Amendments -** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 15 June 2025 and was last updated on 15 June 2025.**INTRODUCTION**

**Review question / Objective** 1. How effective is yoga in reducing stress among pregnant women? 2. How can yoga affect the treatment of postpartum depression (PPD) in expectant mothers and postpartum women? 3. Does yoga help pregnant women with low back pain (LBP)?

**Background** Yoga is becoming more and more popular in professional settings for a range of physical and mental health conditions, especially those linked to stress, and it has shown encouraging results. Improved health has been achieved. Yoga is a comprehensive system that uses physical postures, breathing exercises, concentration, and meditation to create balance along emotional, mental, physical, and spiritual dimensions. Modern society has a lot of different styles of yoga, but most of them involve some physical postures and breathing exercises. Yoga is thought to alter nervous system regulation and physiological system functioning (e.g., immune, endocrine, neurotransmitter, and cardiovascular

and improve psychological well-being (e.g., frequency of positive mood states and optimism) and physical fitness (e.g., strength, flexibility, and endurance). Yoga is believed to improve psychological well-being (such as the frequency of positive mood states and optimism) and physical fitness (such as strength, flexibility, and endurance) in addition to regulating the nervous system and physiological systems (such as the immune, endocrine, neurotransmitter, and cardiovascular). According to a meta-analysis of randomized controlled trials, Yoga practice may reduce cortisol, autonomic response (changes in heart rate and systolic blood pressure), cytokines, and lipid levels, as a result, reduce stress symptoms.

**Rationale** Pregnancy is a unique period in life that is associated with hormonal and other physiological changes throughout the pregnancy. During pregnancy, the physical, psychological and hormonal changes that occur can cause a variety of discomforts, including anxiety and back pain. Pregnant women experience numerous physical, hormonal, and psychological changes, particularly during the second and third trimesters. Several of

these changes certainly cause discomfort in pregnant women. The changes include increased frequency of urination, insomnia, leg cramps, constipation, dyspnea, varicose veins, non-pitting oedema, easy fatigue, gingivitis, increased anxiety, and Braxton Hicks.

Stress and worries about pregnancy and childbirth can cause anxiety in pregnancy. Increased levels of the hormones estrogen and progesterone can result from hormonal changes during pregnancy. There are mood swings, fatigue and anxiety caused by these two hormones. Apart from that, stress and worry about pregnancy and childbirth can also be factors that trigger anxiety in pregnancy. Stress and worry about pregnancy and childbirth can also be factors that trigger anxiety in pregnancy. An excessive amount of anxiety during pregnancy can have a negative impact on the physical and mental health of pregnant women, as well as fetal development. An excessive amount of anxiety can cause pregnant women to have difficulty sleeping, difficulty concentrating, and difficulty enjoying their pregnancy. The risk of pregnancy complications, such as an early birth and a low birth weight, can be heightened by excessive worry.

Yoga practice helped alleviate depression and anxiety in depressed pregnant women. Patients with major depressive disorder have also reported positive effects of yoga on depressive symptoms.

## METHODS

**Strategy of data synthesis** PubMed for health and medical research, and PsycINFO for psychological studies. Cochrane Library (Systematic reviews and evidence-based medicine), Google Scholar (for other scholarly resources), Scopus (multidisciplinary research).

**Eligibility criteria** Anxiety ; Postpartum depression; low back pain; Research published between 2014 and 2024; Research published in English only; Randomized controlled trials; Cohort studies; Case studies.

**Source of evidence screening and selection** The study included researches published in English only, between 2014 and 2024 which were, randomized controlled trials, cohort, case studies, Systematic reviews.

The study excluded pregnant women with pre-existing health conditions like Hypertension, Cardiovascular disease and Diabetes since these conditions can affect exercise safety and outcome measures, Recent trauma, Contraindications with exercises, No undergone surgery within 6 months, Juvenile pregnancy , Teenage pregnancy, Early

adolescent pregnancy, Advanced maternal age (AMA).

**Data management** "Yoga" AND "pregnancy" AND ("stress", "postpartum depression", or "low back pain"), "Prenatal yoga" with "low back pain" with "postpartum depression" "Effectiveness of yoga" - "stress reduction" - "pregnancy" - "postpartum depression".

**Reporting results / Analysis of the evidence** The examined literature continuously affirms the beneficial effects of prenatal yoga in lowering stress, easing low back pain, and lowering the risk of postpartum depression in expectant mothers. Numerous studies have demonstrated that yoga is a safe, affordable, and accessible activity that supports pregnant women's physical and mental health. Mothers' comfort and emotional stability seem to be greatly enhanced by the incorporation of physical postures, breathing techniques, and mindfulness activities. These results imply that prenatal yoga ought to be regarded as a beneficial adjunctive strategy in maternal healthcare, deserving of more investigation and wider application in clinical settings.

**Presentation of the results** The studies included showed as compared to postural orientation, the yoga technique was more successful in lowering the severity of lumbopelvic pain. In few studies control group experienced a significant decline in their Self Depression Scale (SDS) scores. . Pregnant women who do yoga may experience less anxiety during labour, shorter labour stages, and less pain. Also in few studies, the yoga group's rate of improvement in depression, anxiety, and HRQOL was significantly higher than that of the control group. The study suggests that antenatal yoga appears to help lower women's postpartum anxiety and halt the escalation of depression symptoms.

Large-scale replication studies are necessary in light of these findings, which suggest yoga as a promising alternative therapy for PPD. In summary, yoga is an effective treatment for postpartum depression.

**Language restriction** English.

**Country(ies) involved** India.

**Other relevant information** This study aimed to investigate the effects of yogic postures on postpartum stress and low back pain in pregnant women. Regular yoga practitioners reported significantly lower levels of felt stress and lower back pain ratings.

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The calming benefits of yoga breathing (pranayama), meditation, and mindfulness, which are all incorporated into yoga practices, may be the reason for the decrease in stress levels. These factors are known to lower cortisol levels and improve psychological well-being by downregulating the hypothalamic-pituitary-adrenal (HPA) axis.

**Keywords** "Yoga" AND "pregnancy" AND ("stress", "postpartum depression", or "low back pain"), "Prenatal yoga" with "low back pain" with "postpartum depression".

#### **Dissemination plans**

15 JUNE to 10 JULY 2025 - INTRODUCTION

11 JULY TO 11 SEPTEMBER - REVIEW OF LITERATURE

12 SEPTEMBER TO 22 SEPTEMBER - METHODOLOGY

23 SEPTEMBER TO 20 NOVEMBER - DATA COLLECTION

20 NOVEMBER TO 23 NOVEMBER - DATA ANALYSIS.

#### **Contributions of each author**

Author 1 - Vishakha - Author 1 drafted the manuscript and did result analysis.

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