



# **GARBHASANSKAR REDUCES ANTENATAL DEPRESSION: A SYSTEMATIC REVIEW OF EMPIRICAL STUDIES IN URBAN INDIA**

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**Abstract:** This systematic review examines the effectiveness of *Garbhasanskar*—a traditional Indian approach focusing on holistic maternal well-being—as a viable intervention for reducing antenatal depression among urban Indian women. Antenatal depression (AND) is a rapidly growing mental health concern. Untreated AND has severe consequences for both fetus and mother. These include altered fetal development, neurodevelopmental issues, pre-term and low birth weights for the babies; for the mothers there is higher risk of postpartum depression, increased risk of physical illnesses like diabetes, more risk of maladaptive behaviours. Modern psychological interventions often face challenges such as accessibility, cultural stigma, and a lack of integration with traditional practices. For the review, empirical studies from 2010 to 2024 were extracted using databases like Google Scholar and PubMed. 6 studies met the inclusion criteria. Data was synthesized using narrative synthesis to examine the impact of practices like yoga, mantra chanting, prenatal education, mindfulness, and nutritional guidance, on AND. Findings indicate that women engaged in these had a notable reduction in AND.

**Key words** - antenatal depression, *Garbhasanskar*, garbh sanskar, urban India, traditional interventions, maternal health, systematic review.

## **I. INTRODUCTION**

Pregnancy is a time of great change for a woman at physical, mental and emotional levels. Not all women are able to cope with these transformations in their body and life. This can lead to psychological distress in them. Antenatal depression (AND) is a growing public health concern that affects a substantial proportion of pregnant women worldwide. Estimates suggest that between 10% and 20% of pregnant women, worldwide, go through depression, which can have implications for both maternal and fetal health (Woods et al., 2010). The prevalence of AND in urban India is alarmingly high, with studies indicating rates ranging from 20% to almost 40%. Multiple factors contribute to this: increasing shift towards nuclear family structures and dual-income households, financial stress, lack of social support, and fears surrounding childbirth and motherhood (Nagandla et al., 2016).

Contemporary interventions for AND include pharmacological treatments such as antidepressants and psychological therapies like cognitive-behavioral therapy (CBT). Social stigma associated with mental health disorders in India, often obstructs treatment (Coumary et al, 2021). Concerns over the side effects of medications during pregnancy also lowers treatment seeking. Often, AND goes undiagnosed and untreated. AND is associated with various adverse outcomes, including low birth weight, preterm birth, as well as risk of developing postpartum depression. This can create great burden on resources in countries like India, where public health care for mental health is still evolving. Despite the prevalence, antenatal mental health is not a consideration in the national policies for maternal health (Kalra et al, 2024). The challenge, therefore, is to

identify and promote interventions that are not only effective in reducing AND but also culturally acceptable and cost-effectively accessible.

In this context, there has been growing interest in alternative, culturally grounded interventions such as *Garbhasanskar*, an ancient Ayurvedic practice that focuses on the holistic well-being of mother and unborn child. *Garbhasanskar*, is a combination of two words: 'Garbha' means womb and 'Sanskara' means refinement or education to achieve high functioning, emphasizing the influence that the mother's physical and mental state can have on the development of the fetus (Sharma et al, 2023). It is believed that the practices followed during pregnancy can shape the personality, health, and mental faculties of the child, as well as maintain the mother's mental equilibrium. The core components of *Garbhasanskar* include meditation and yoga, mantra chanting, music therapy, dietary practices, positive thinking and spiritual practices (Hajare et al, 2019).

Emerging research shows that women who engage in *Garbhasanskar* practices report lower levels of depression and anxiety compared to those who do not follow these practices (Itraj & Rakhi, 2023). Meditation and mantra chanting have been found to promote emotional resilience and reduce stress, while dietary practices ensure that the mother receives adequate nutrition, which is linked to improved mental health outcomes. Integration of some *Garbhasanskar* practices like yoga and mantra chanting, into modern prenatal care is becoming common in urban India, particularly as women seek alternatives to pharmacological treatments for depression. However, more empirical studies are required to establish the effectiveness of *Garbhasanskar* as a treatment for AND, especially in urban settings where the pressures of modern life are more pronounced.

### 1.1 Statement of the research problem

Despite increasing prevalence, there is poor awareness of AND and how to address it. National health policy also does not include AND in its purview. Treatment access is curtailed by culture, stigma, affordability concerns.

## II. LITERATURE REVIEW

Antenatal depression (AND), characterized by persistent sadness, anxiety, irritability, and fatigue, affecting approximately 10-25% of pregnant women globally (Dadi et al, 2020). In urban India, prevalence can be even higher – ranging from 4% to 65% - due to a combination of socio-economic factors, urban stressors, lack of social support, domestic issues and the shame of being linked to a mental health problem (Sahoo et al, 2023; Nagandla et al., 2016).

The effects of AND can be profound, for both mother and fetus. Untreated maternal psychological distress led to children being rated high on having socio-emotional and behavioural difficulties (Prady et al, 2015). It can impair mother-child bonding and parenting capacity at various stages in the 1st year postpartum (Singer et al, 2003). Child's neurocognitive development is affected, including lower academic achievement and higher probability of school dropout (Severo et al, 2023). AND is linked to a range of maternal psychological issues, including increased stress, anxiety, and a higher risk of postpartum depression. Physical, emotional, and social changes can take a toll, leading to poorer mental health outcomes (O'Hara & Swain, 1996). It also impacts ability to care for oneself in the antenatal phase.

While treatment avenues exist to some extent, but there are obstacles as well. Some of the barriers stem from lack of knowledge (Fellmeth et al, 2023), others from cultural reasons, gender norms (Goyal et al, 2020) and fear of being associated with mental illness (Shanbag et al, 2023). Financial constraints (Arora & Aeri, 2019) and inadequate mental health infrastructure (Singh, 2018) are key hurdles. In urban settings, mental health awareness has increased but accessibility and affordability of mental health care remain significant challenges (Mishra et al, 2021).

Several studies in India and abroad (Cruser et al, 2012) find that both screening and interventions for addressing anxiety and depression must be as culture specific as possible. Subcultures (Jidong et al, 2021), beliefs (Evagorou et al, 2015), cultural perception of motherhood and depression (Rodrigues et al, 2003) and the perception of social support versus individual resilience (Kishore et al, 2018) have great impact on how effective interventions will be. Culturally-sensitive screening and treatment (Kantipudi et al, 2020) and conceptualizing treatments in Indian context are important (Pereira et al, 2020). Traditional practices like *Garbhasanskar*, deeply rooted in Indian culture, are emerging as viable, non-pharmacological alternatives for managing antenatal depression.

*Garbhasanskar* practices emphasize the balance between the body, mind, and spirit. This integrative approach is thought to contribute to both physical and emotional well-being during pregnancy. Maternal emotions are believed to directly affect the fetus, hence care must be taken. Practices are prescribed in *Charaka Samhita* and *Sharangdhar Samhita* (Bhalgat & Firange, 2019), Ayurveda (Nikam et al, 2023), and by Vagbhatta (Hajare et al, 2019). A conceptual overview of *Garbhasanskar* shows the purpose to be the development of *supraja* (loosely translates as good children) (Vats et al, 2023) by following a long list of procedures (Patil & Kesur, 2021).

## 2.1 Empirical studies about impact of *Garbhasanskar* on AND

Studies have begun to explore the potential benefits of *Garbhasanskar* practices in managing antenatal depression. In a study by Itraj and Rakhi (2023), 122 pregnant women in an urban Indian setting were divided into two groups: one receiving standard prenatal care and the other participating in a *Garbhasanskar* program. The women in the *Garbhasanskar* group reported remarkable lowering in the levels of anxiety and depression compared to the control group. This study highlights the potential of *Garbhasanskar* practices, such as meditation, mantra chanting, and music therapy, to promote emotional well-being during pregnancy.

Other empirical studies involving individual aspects of *Garbhasanskar* like yoga or mindfulness show that there is notable reduction in depressive symptoms. Ganjekar et al. (2024) and Satyapriya et al (2013) reported reduction in depression among women who underwent yoga protocol. Vaishnav et al (2023) reported reduction through mindfulness and Fuhr et al (2019) tested positive thinking strategies. Konsam et al (2023) examined a correlation between application of specific Hindustani raaga and reduction in antenatal depression. Application of even limited aspects of *Garbhasanskar* has significant positive impact on the levels of coping capacity, stress management and wellbeing of antenatal mothers (Deshpande, 2013). A longitudinal study (Poswal, 2022) in rural Karnal, Haryana showed that *Garbhasanskar* reduced anxiety and depression in antenatal women as well as resulted in full-term births, proper birth weights for the babies. Children were studied up to the age of four and were found to have better physical fitness and mental resilience than children whose mothers had not undergone *Garbhasanskar*.

## 2.2 Research Gaps and Rationale for the Systematic Review

Though there is growing interest in *Garbhasanskar*, there also remains severe lack of large-scale, high-quality empirical studies that rigorously evaluate its impact on antenatal depression. Most of the available literature consists of small-scale studies or qualitative research, limiting the generalizability of the findings. Moreover, most studies on *Garbhasanskar* have focused on its benefits for fetal development. Several studies focus on describing and providing commentary on the practices and the theoretical benefits. It also comes to light that the knowledge and application of *Garbhasanskar* is neither universal nor uniform in today's India (Shindhe et al, 2015). In majority of society, only fragmented practices remain and are more ritualistic than therapeutic. A standard, robust protocol is not available. Limited attention has been paid to its potential in addressing maternal psychological issues like AND.

This systematic review aims to fill this gap by synthesizing the existing empirical studies on the impact of *Garbhasanskar* on antenatal depression in urban India. By reviewing and analyzing the available data, this inquiry seeks to provide a clearer picture of the effectiveness of *Garbhasanskar* in reducing AND, to highlight the paucity of empirical research and offer recommendations for further research and application in practice.

## III. METHODOLOGY

### 3.1 Aim of the Study

To synthesize relevant studies to understand the relationship between *Garbhasanskar* intervention and reduction of antenatal depression.

### 3.2 Objective

To evaluate the impact of *Garbhasanskar* intervention on antenatal depression through a synthesis of the available data.

### 3.3 Definitions

#### 3.2.1 Antenatal depression (dependent variable)

The Diagnostic and Statistical Manual of Mental Disorders (DSM 5) defines antenatal depression under the umbrella of perinatal depression. It is defined as the occurrence of a major depressive episode during

pregnancy, also known as antenatal depression (AND). Following childbirth, it is known as postpartum depression (PPD). It must be used with the specifier “with peripartum onset” for depressive disorders.

### 3.2.2 *Garbhasanskar* (independent variable)

It is a set of practices outlined in Vedic literature for the enrichment and refinement of mother and fetus so that both are psychologically and physically in peaceful state during pregnancy, which results in post-partum mental and physical fitness of both mother and child.

## 3.4 Study Design

### 3.4.1 *Inclusion Criteria*

Only empirical studies (qualitative, quantitative or both) examining the effects of *Garbhasanskar* on antenatal depression were included. The studies needed to include primary data collected through clinical trials, observational studies, or interviews/surveys.

The population studied must be pregnant women diagnosed with, or at risk of antenatal depression, with a focus on urban settings in India. The intervention must involve *Garbhasanskar* practices (e.g., meditation, mantra chanting, yoga, music therapy, spiritual reading, dietary management and so forth) as the primary or a significant component of the treatment.

Studies must measure the impact of *Garbhasanskar* on depression symptoms using validated psychological or psychiatric scales (e.g., EPDS or Edinburgh Postnatal Depression Scale, BDI or Beck Depression Inventory and so forth). Only peer-reviewed journal articles were considered, with a preference for studies published in Indian journals or studies conducted in the Indian context. Articles had to be published in English to be included.

### 3.4.2 *Exclusion Criteria*

Studies that focused primarily on other outcomes (e.g., fetal development or general maternal well-being) without addressing antenatal depression specifically. Review articles, commentaries, opinion pieces, or articles without original empirical data. Studies conducted outside the Indian context or on populations outside urban settings were also not included. Also excluded were articles not published in peer-reviewed journals or those without rigorous methodological frameworks.

## 3.5 Search Strategy

To identify the relevant studies, a comprehensive search was undertaken across several databases and platforms. The databases searched included: PubMed, Google Scholar, IndMED, AYUSH PORTAL (relevant to *Garbhasanskar*). The search terms used were combinations of the following keywords: "*Garbhasanskar*", "garbh Sanskar", "Garbha Sanskar", "antenatal depression", "pregnancy depression", "maternal mental health", "urban India", "Ayurveda", "non-pharmacological intervention", "reduction". Other keywords used were for separate interventions like yoga, meditation, spiritual reading and so forth.

Boolean operators (AND/OR) were used to refine the search. Apart from that, the reference lists of included studies were used to identify additional relevant articles. The search was limited to articles published between 2010 and 2024 on *Garbhasanskar* practices.

## 3.6 Data Extraction

Data from the included studies were extracted systematically. The following information was collected from each study:

- study title and authors
- year of publication
- study design (e.g., qualitative research, randomized controlled trial, mixed method, observational study)
- sample size and characteristics
- setting (urban, India)
- details of *Garbhasanskar* intervention (e.g., meditation, yoga, diet, spiritual practices)
- duration of intervention
- outcome measures (depression scales, qualitative themes)
- main findings

To ensure accuracy and consistency, the extracted data were cross-checked and any discrepancies were resolved through discussion.

### 3.7 Data Synthesis

Given the heterogeneity of the study designs, interventions, and outcome measures, a narrative synthesis was deemed the most appropriate approach for data synthesis. The findings were categorized according to key themes that emerged from the literature: impact of meditation and yoga on AND, effect of mantra chanting and music therapy, role of dietary practices in Mental Health, Positive Thinking. Where possible, quantitative data on the effect size of *Garbhasanskar* on reducing symptoms of depression were summarized, and trends across the studies were analyzed.

### 3.8 Ethical Considerations

All studies that are part of this review were required to have ethical clearance from institutional review boards or equivalent ethical bodies. The anonymity and confidentiality of participants were preserved in all studies, as per ethical research standards.

## IV. RESULTS AND DISCUSSION

Of all the articles that the searches yielded, only 6 were selected for the systematic review. Rest of the articles were excluded for the reasons such as: Focus on postpartum depression, non-empirical studies, focus on rural population, focus on anxiety, descriptive articles about *Garbhasanskar*.

### 4.1 Results of Database search

Table 4.1: Summary of included studies

Author (year)	Study design*	Sample size	Sample Characteristics	AND measure	Intervention
Vaishnav et al. (2023)	Quasi Experiment	36	23 in the intervention group, 13 in the control group	EPDS	Mindfulness
Konsam et al (2023)	Quantitative study	128	3 intervention groups of 32 each. 1 control group of 32. Group 1 = music + health, Group 2 = only music, Group 3 = only health, Group 4 = control	EPDS	Health education & Music therapy
Itraj & Rakhi (2023)	Mixed method	122	61 in experimental group, 61 in control group	DASS-21	Yoga, meditation and diet
Ganjekar et al. (2024)	Multicentric, single-arm, open-label exploratory study	162	New Delhi = 82, Bengaluru = 50, and Mumbai = 30	DASS-21	Yoga & Meditation
Sathyapriya et al (2013)	Prospective Randomized control study	96	51 to yoga group, 46 to control group	Hospital Anxiety Depression Scale, HADS	Yoga & Meditation
Fuhr et al (2019)	Randomized Control Trial	280	140 in experimental group, 140 in control group	Patient Health Questionnaire-9 (PHQ-9)	Positive thinking

Table 4.1 provides the main points of the studies that were eligible for this systematic review. Six studies were eligible as per the inclusion criteria. Six different designs are involved, four different measuring scales and the interventions are also different. Although two studies are broadly classified as “Yoga & Meditation”, the *yogasana* and meditation techniques within the studies had variations.

A total of 824 women in different stages of pregnancy form the sample population. Of these 532 were in experimental groups and 292 were in control groups.

Due to the heterogeneity of the methods, of the trimesters involved and the measures in the 6 studies eligible for this systematic review, meta-analysis was not deemed appropriate. A narrative synthesis was done.

## 4.2 Framework of Narrative Synthesis

### 4.2.1 Theory

*Garbhasanskar* is an effective, culturally viable intervention for antenatal depression for urban Indian women who are at risk for or diagnosed with AND. It is more accessible and customizable by region and individual's culture.

### 4.2.2 Preliminary Synthesis

The six studies were elaborated and their details were extracted to include sample size, intervention, nature of study, statistical analysis used, quantitative outcome measures, qualitative outcome measures. These were collated to find the statistical significance reported in each study. Synthesis was done to see if the effect of *Garbhasanskar* is significant or not.

"Comparative Study of Pregnant Women with Garbha Sanskar Challenge and without Garbha Sanskar Challenge on Stress, Depression and Anxiety" by Itraj & Rakhi (2023), was a mixed-method design wherein the sample size was 122 pregnant women in different trimesters of their respective pregnancies. Number of participants were divided equally among the experimental and control groups, that is, 61, respectively. The intervention was designed with an integrated set of *Garbhasanskar* practices, including meditation, diet, yoga, games, fun activities and math over a period of 9 months. Outcome Measures included qualitative themes from interviews and changes in depression scores using DASS 21 Test by Lovibond and Lovibond. Depression, Anxiety, and Stress Scale-21 (DASS-21). Qualitative inputs were derived via interviews. The statistical analysis was done using SPSS software. To analyze distribution of data, descriptive statistics were used. The findings of the study were significant. Quantitatively, participants of *Garbhasanskar* exhibited lower levels of depression (5.93) compared to non-participants (11.72). Qualitative analysis revealed themes of positive impact of social support, peer support, expert guidance, safe space for seeking help as a means of reducing psychological distress.

"Impact of mindfulness-based interventions in the prenatal period on maternal mental health: A quasi experiment", was designed as Quasi Experimental research by Vaishnav et al (2023). It involved a sample 36 pregnant women (23 in the intervention group, 13 in the control group). For the intervention *Garbhasanskar* practices including meditation, yoga, and dietary recommendations were practiced for 8 weeks. Activities included talking to the fetus, visualizations, breath control exercises. Outcome Measures were derived from the administration of the Edinburgh Postnatal Depression Scale (EPDS) and interviews were undertaken to get qualitative inputs. Intervention and control group scores were analyzed using chi-squared and independent t-tests. The findings were significant. The group that underwent the intervention showed a reduction in EPDS scores, with an average reduction of 8.2 points ( $p < 0.01$ ), indicating a 50% decrease in depressive symptoms in comparison to the control group.

"Effectiveness of health literacy and relaxing music on quality of sleep and risk for antenatal depression" by Konsam et al (2023), is a quantitative study with a sample size of 128 pregnant women in their 3rd trimesters. They were divided into four groups, viz., control group, group with only music intervention, group with only health education and group with combined music and health intervention called CHARM. Each group comprised of 32 women. CHARM intervention involved periodic health education about active lifestyle, rest and diet in addition to relaxing instrumental Hindustani classical music using specific *raaga* for 15 minutes a day. The group that received only music intervention had to listen to *raaga* tracks at designated times in the early morning and before sleep. The health education group received information about diet, exercise, sleep and rest. The experiment was conducted for a total of four weeks. Control group did not receive any intervention. Outcome Measures were derived from the administration of the Edinburgh Postnatal Depression Scale (EPDS). McNemar's test was applied for data analysis. Before the intervention was applied 38 out of 128 participants scored 13 and above on EPDS pretest. Post intervention, significant reduction in depression was noted ( $P=0.03$ ) for combined intervention called CHARM. Music alone did not show reduction in symptoms, neither did health-literacy alone.

Ganjekar et al (2024) conducted the "The Pregnancy Tele-yoga Module to Combat Stress, Anxiety, and Depression Associated with Pregnancy: An Exploratory Open-label Multicentric Study". It is a Multicentric,

single-arm, open-label exploratory study. In this, 162 pregnant women were selected from three different cities in India. These were: Mumbai = 30 women, Bengaluru = 50 women, New Delhi = 82 women. Intervention involved a 4-week yoga protocol of body–mind–spirit techniques which combined *pranayama* (breathing techniques), *dhyana* (meditative practices and relaxation), and *asanas* (postures). Interventions were carried out in centers in those three locations. Outcome Measures were calculated on the Depression, Anxiety, and Stress Scale-21 (DASS-21). Descriptive statistics were employed and data was analyzed using IBM SPSS Statistics, version 27. It was found that preintervention, in depression scores, mild (47 women, 29.01%) was the most common, followed by moderate (25 women, 15.43%) and severe (2 women, 1.23%). Post intervention, depression scores, (8 women, 8.33%) were mild in nature, no severe symptoms reported. Depression persisted in 10.4% of the women.

"Effect of integrated yoga on anxiety, depression & well being in normal pregnancy" by Satyapriya et al (2013), is a Prospective Randomized control study with a sample size of 96 pregnant women. Of these 51 were assigned to yoga group, and 46 to control group. Study was conducted in Bengaluru. Normal pregnancies were considered for the study. Intervention was an Integrated Approach of Yoga Therapy (IAYT), which was an experimental intervention. This was administered for 16 weeks starting from 20th week of gestation. For one hour daily. Control group did standard antenatal exercises. Outcome Measures were calculated using the Hospital Anxiety Depression Scale, HADS. Mann–Whitney and Wilcoxon's tests were applied for statistical analysis. It was found that Depression as scored in HADS was reduced in yoga group (30.67% experienced reduction, significance  $p < 0.001$ ). There was also significant difference between groups ( $p < 0.001$ ).

The study by Fuhr et al (2019), titled "Delivering the Thinking Healthy Programme for perinatal depression through peers: an individually randomised controlled trial in India" is a Randomized Control Trial conducted in urban Goa. 280 women (140 in experimental group, 140 in control group), participated in the study. The Think Healthy Program or THP comprises of cognitive and behavioral techniques that are in line with the counseling and positive thinking practices in *Garbhasanskar*, wherein mother is prepared for the arrival of the baby and takes responsibility for her own health and well-being in joyful manner. Thought patterns are changed through use of imagination and visualizations. Outcome Measures were calculated based on participants' responses to the Patient Health Questionnaire-9 (PHQ-9). Strata 15 and MS Excel were employed for cost-effective analysis. All other analyses were conducted using Strata 14. It was found that pre-intervention, median PHQ-9 score of experimental group was 13 and that of control group was 12. At 6 months post intervention, symptom severity standard deviation was 3.47 in experimental and in control group was 4.48 ( $p=0.16$ ). Remission rate was more in experimental group (73%) than control group (60%), with significance of  $p=0.04$ .

#### 4.2.3 Relationships Between or Within the Included Studies

Table 4.2

Intervention Type	Study	Measure	Scores	Significance	Effect on depression
Yoga & Meditation	Ganjekar et al. (2024)	DASS 21	Without intervention = 47 mild 25 moderate, 2 severe (N=162) With intervention = 8 mild, 2 moderate, 0 severe (N=96)	$p<0.001$	Significant reduction
Yoga, Meditation & Diet	Itraj & Rakhi (2023)	DASS 21	Mean Without intervention = 11.72 Mean With intervention = 5.93	$p<0.001$	Significant reduction
Mindfulness	Vaishnav et al. (2023)	EPDS	Mean Pre = 9, Mean post = 5.45	$p=0.007$	Significant reduction

Health education & Music therapy	Konsam et al (2023)	EPDS	Only music: pre = 3 at risk, post = 7 at risk Only health: pre = 6 at risk, post = 3 at risk Combined intervention: pre = 8 at risk, post = 1 at risk Only combined had significant reduction*	*p=0.03	Moderate reduction
Yoga & Meditation	Sathyapriya et al (2013)	HADS	Mean Pre = 6.39, Mean post = 4.43	p<0.001	Significant reduction
Positive thinking	Fuhr et al (2019)	PHQ-9	Remission at 6 months = 73% (exp) vs 60% (control) Symptom severity at 6 months = SD 4.49 (exp) vs 4.48 (control)	Remission p=0.04 Symptom severity p=0.16	Moderate reduction
Pre = pretest, Post = Post Test, control = control group, exp = experimental group, SD = standard deviation					

Table 4.2 shows the interplay within and across the studies. Of the six studies included, four of them showed result of significant reduction in antenatal depression post intervention, while two had only moderate reduction. The yoga component appears to have remarkable effect. The mindfulness meditation technique appears to be more effective. The wider the protocol, the more the impact on lowering AND. Music therapy did not have significant reduction unless combined with health education. Positive thinking did not have significant reduction in symptom severity but aided in higher remission rates.

### 4.3 Quantitative Findings

#### 4.3.1 Reduction in Depression Score

Four of the six quantitative studies demonstrated a statistically significant reduction in depression scores among women who engaged in *Garbhasanskar* practices.

#### 4.3.2 Intervention Effectiveness

The included studies have highlighted the effectiveness of some of the *Garbhasanskar* interventions in reducing symptoms of antenatal depression through a combination of practices: multi-pronged intervention with yoga, meditation, diet and other activities was most effective in reducing symptoms. Interventions incorporating mindfulness techniques were also particularly effective. Participants reported enhanced self-awareness and emotional regulation. Engaging in physical activities like yoga contributed to improved mood and reduced depression among participants. Thought and behaviour modifications also aided in bringing down prenatal depression scores and maintained it in months to come. However, it did not bring down symptom severity. Indian classical music interventions require more investigation.

### 4.4 Qualitative Findings

The qualitative insights of the Itraj & Rakhi (2023) and Vaishnav et al (2023) studies added depth to the understanding of how *Garbhasanskar* practices affected participants. Women reported that social and peer support went a long way in making them feel happy and secure in their pregnancy. They also felt at ease to discuss their feelings and problems in the space provided for the purpose under expert guidance. The women could understand the benefits of such interventions for their baby; hence they were also willing to continue beyond experimental period. The expectant mothers reported feeling more connected to the child. Mothers also noted that the fetus started to remain still, without agitation, during stressful situations. These factors have led the women to feel safe and at ease in their mind. Hence, psychological distress is also lowered.

### 4.5 Synthesis of Findings

The findings suggest that though *Garbhasanskar* interventions generally reduce antenatal depression, the effect varies by component. Yoga and meditation consistently show positive effects, while music therapy and diet modifications may require further investigation to determine their individual contributions. Positive thinking is yet another area to be explored more. However, mindfulness seems to have more impact than just positive visualizations. Overall, the most effective intervention appears to be one that combines multiple

components, with a particular focus on yoga, meditation, diet and other activity like games and math. Beyond the quantitative aspects, two of the studies were able to bring qualitative insight that *Garbhasanskar* practices provide a sense of safety and security to pregnant women, while also improving mother-child bonding. This also lowers mental distress.

#### 4.6 Limitations of the synthesis

The heterogeneity of study designs, sample sizes, and outcome measures puts a limitation on the generalizability of the findings. The absence of long-term follow-up data in most studies also limits conclusions about the sustainability of the observed reductions in depression.

#### 4.7 Recommendations for Future Research

**Samples:** Future studies should aim to recruit larger and more diverse samples to improve the generalizability of findings.

**Standardization of Interventions:** Standardization of *Garbhasanskar* practices will facilitate more rigorous comparisons across studies, helping to identify the most effective components.

**Longitudinal Studies:** Long-term studies are required to assess the continual impact of *Garbhasanskar* on maternal mental health beyond the immediate antepartum and postpartum period.

**Mechanisms of Action:** Exploring the underlying mechanisms that contribute to the effectiveness of *Garbhasanskar* will provide valuable insights for optimizing interventions and informing clinical practice.

**Developing a robust protocol:** Validated and robust protocol must be created and tested. Protocol must be devised following the recommendations of the Vedic literature. However, within the protocol, steps can be customized for each region or culture of the pregnant women. Again, customized protocols must also be rigorously tested to ascertain efficacy.

#### 4.8 Conclusion

This systematic review aimed at showing that *Garbhasanskar* can be an effective intervention to reduce antenatal depression in urban Indian settings. This was done by examining empirical studies conducted using *Garbhasanskar* practices on women who reported depression during pregnancy. The studies were conducted in urban settings. Six studies met the inclusion criteria. They were heterogenous in terms of measuring tools, interventions applied, areas where population was studied. Participants included in the studies were from different trimesters across and within the studies. Only one study attempted to directly correlate a broad set of *Garbhasanskar* practices to reduction in antenatal depression. Remaining five studies were on the individual components of *Garbhasanskar*.

The systematic review reveals that *Garbhasanskar* practices can notably reduce symptoms of antenatal depression among urban Indian women. Majority of the quantitative studies consistently reported significant reductions in depression scores, while qualitative findings emphasized importance of social support and need for safe space and expert guidance, for lowering psychological suffering. The combination of mindfulness, physical activity, and spiritual practices may offer a holistic approach to improving mental health outcomes for expecting mothers in urban India. However, no single, standard protocol could be identified in these studies.

The review also brings to light the severe lack of empirical studies of *Garbhasanskar* as an intervention in urban Indian settings, although prevalence of antenatal depression is very high in this population. More research is needed to prove intervention efficacy. Large-scale studies, longitudinal studies, and exploration of the underlying mechanisms must be done. A robust protocol should be devised using the base of Vedic texts. This protocol must be tested empirically for definitive conclusions to be drawn. Even if the protocol is customized for a region or community, that too should be rigorously tested.

A healthy and productive society is birthed by its mothers. Hence, thorough scientific investigation into applying our cultural knowledge of *Garbhasanskar* in modern era has become an urgent need.

## REFERENCES

- Arora, P. & Aeri, B. (2019). Burden of antenatal depression and its risk factors in Indian settings: A systematic review. *Indian Journal of Medical Specialities*, 10(2), 55.  
[https://doi.org/10.4103/injms.injms\\_36\\_18](https://doi.org/10.4103/injms.injms_36_18)
- Bhalgat, M. S., & Firange, D. P. (2018). GARBHA SANSKAR-NEEDFULL FOR HEALTY AND INTELLECTUAL GENERATION- REVIEW ARTICLE. *EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH*, 6(10), 257–258.
- Coumary Sendhil A , P Vimalanathane, Lavanya Raman, Lopamudra B John, Syed Habeebullah (2021). Indian Journal of Obstetrics and Gynecology Research 2021;8(2):142–145  
<https://doi.org/10.18231/j.ijogr.2021.031>
- Cruser, D. A., Asante-Ackuayi, L., Brown, S., Cardenas, E., & Lee, D. (2012, March 12). Evidence-Based Guidance for Culturally Sensitive Assessment and Interventions for Perinatal Depression in Black American Women. *Journal of Primary Care & Community Health*, 3(4), 278–284.  
<https://doi.org/10.1177/2150131912440454>
- Dadi, A. F., Miller, E. R., Bisetegn, T. A., & Mwanri, L. (2020). Global burden of antenatal depression and its association with adverse birth outcomes: an umbrella review. *BMC Public Health*, 20(1).  
<https://doi.org/10.1186/s12889-020-8293-9>
- Evagorou, O., Arvaniti, A., & Samakouri, M. (2015). Cross-Cultural Approach of Postpartum Depression: Manifestation, Practices Applied, Risk Factors and Therapeutic Interventions. *Psychiatric Quarterly*, 87(1), 129–154. <https://doi.org/10.1007/s11126-015-9367-1>
- Fellmeth, G., Kanwar, P., Sharma, D., Chawla, K., DasGupta, N., Chhajer, S., Chandrakant, Jose, E. C., Thakur, A., Gupta, V., Bharti, O. K., Singh, S., Desai, G., Thippeswamy, H., Kurinczuk, J. J., Chandra, P., Nair, M., Verma, A., Kishore, M. T., & Alderdice, F. (2023). Women's awareness of perinatal mental health conditions and the acceptability of being asked about mental health in two regions in India: a qualitative study. *BMC Psychiatry*, 23(1). <https://doi.org/10.1186/s12888-023-05323-5>
- Fuhr, D. C., Weobong, B., Lazarus, A., Vanobberghen, F., Weiss, H. A., Singla, D. R., Tabana, H., Afonso, E., De Sa, A., D'Souza, E., Joshi, A., Korgaonkar, P., Krishna, R., Price, L. N., Rahman, A., & Patel, V. (2019). Delivering the Thinking Healthy Programme for perinatal depression through peers: an individually randomised controlled trial in India. *The Lancet Psychiatry*, 6(2), 115–127.  
[https://doi.org/10.1016/s2215-0366\(18\)30466-8](https://doi.org/10.1016/s2215-0366(18)30466-8)
- Ganjekar, S., Harve, V. S., Bhargav, H., Kukreti, P., Dere, S., Thukral, U., Thamke, P., Puri, M., & Krishnamurthy, M. N. (2024). The Pregnancy Tele-yoga Module to Combat Stress, Anxiety, and Depression Associated with Pregnancy: An Exploratory Open-label Multicentric Study. *International Journal of Yoga*, 17(1), 46–52. [https://doi.org/10.4103/ijoy.ijoy\\_1\\_24](https://doi.org/10.4103/ijoy.ijoy_1_24)
- Goyal, S., Gupta, B., Sharma, E., Dalal, P. K., & Pradeep, Y. (2020b). Psychiatric Morbidity, Cultural Factors, and Health-Seeking Behaviour in Perinatal Women: A Cross-Sectional Study from a Tertiary Care Centre of North India. *Indian Journal of Psychological Medicine*, 42(1), 52–60.  
[https://doi.org/10.4103/ijpsym.ijpsym\\_96\\_19](https://doi.org/10.4103/ijpsym.ijpsym_96_19)
- Hajare P, K, Bharathi, B Pushpalatha, Dave, H (2019, November). GARBHA SANSKAR- NEED OF EVERY EXPECTANT MOTHER FOR HEALTHY PROGENY. *International Journal of Recent Scientific Research*, 10(11F), 36140-36143. DOI: <http://dx.doi.org/10.24327/ijrsr.2019.1011.4846>
- Itraj, K., & Rakhi, E. (2023). Comparative Study of Pregnant Women with Garbha Sanskar Challenge and without Garbha Sanskar Challenge on Stress, Depression and Anxiety. *The International Journal of Indian Psychology*, 11(4), 2348–5396. <https://doi.org/10.25215/1104.077>
- Jidong, D. E., Husain, N., Roche, A., Lourie, G., Ike, T. J., Murshed, M., Park, M. S., Karick, H., Dagona, Z. K., Pwajok, J. Y., Gumber, A., Francis, C., Nyam, P. P., & Mwankon, S. B. (2021). Psychological interventions for maternal depression among women of African and Caribbean origin: a systematic review. *BMC Women S Health*, 21(1). <https://doi.org/10.1186/s12905-021-01202-x>
- Kalra, H., Tran, T., Romero, L., Sagar, R., & Fisher, J. (2023). National policies and programs for perinatal mental health in India: A systematic review. *Asian Journal of Psychiatry*, 91, 103836.  
<https://doi.org/10.1016/j.ajp.2023.103836>

- Kantipudi Jyothi, S., Kannan, G., Viswanathan, S., Ranganathan, S., Menon, J., & Ramanathan, S. (2020, August 11). Antenatal Depression and Generalized Anxiety Disorder in a Tertiary Hospital in South India. *Indian Journal of Psychological Medicine*, 42(6), 513–518. <https://doi.org/10.1177/0253717620928440>
- Konsam, M., D'Souza, S. R. B., Praharaj, S. K., Nayak, B. S., Shetty, J., Bhat, S., Noronha, J. A., & Panda, S. (2023). Effectiveness of Music on Perinatal Anxiety Among Pregnant Women and Newborn Behaviors: A Systematic Review and Narrative Synthesis. *Indian Journal of Psychological Medicine*, 45(6), 565–572. <https://doi.org/10.1177/02537176231167077>
- Lodha, P., Jahangir, T., Karia, S., DeSousa, A., Appasani, R., & Withers, M. (2022). Perceptions of perinatal depression among low-income mothers and families in Mumbai, India. *Asian Journal of Psychiatry*, 71, 103048. <https://doi.org/10.1016/j.ajp.2022.103048>
- Mahapatra, P., & Seshadri, S. (2024). Mental health in India: evolving strategies, initiatives, and prospects. *The Lancet Regional Health - Southeast Asia*, 20, 100300. <https://doi.org/10.1016/j.lansea.2023.100300>
- Mishra, P. S., Veerapandian, K., & Choudhary, P. K. (2021). Impact of socio-economic inequity in access to maternal health benefits in India: Evidence from Janani Suraksha Yojana using NFHS data. *PLoS ONE*, 16(3), e0247935. <https://doi.org/10.1371/journal.pone.0247935>
- Nagandla, K., Nalliah, S., Yin, L., Majeed, Z., Ismail, I., Zubaidah, S., Ragavan, U., & Krishnan, S. (2016b). Prevalence and associated risk factors of depression, anxiety and stress in pregnancy. *International Journal of Reproduction Contraception Obstetrics and Gynecology*, 2380–2388. <https://doi.org/10.18203/2320-1770.ijrcog20162132>
- Nikam, U., Yennawar, S., & Deshmukh, J. (2023, May 1). Importance of *Garbhasanskar*: A review. *International Journal of Herbal Medicine*, 11(3), 34–37. <https://doi.org/10.22271/flora.2023.v11.i3a.867>
- O'hara, M. W., & Swain, A. M. (1996). Rates and risk of postpartum depression—a meta-analysis. *International Review of Psychiatry*, 8(1), 37–54. <https://doi.org/10.3109/09540269609037816>
- Patil, V. & Kesur, D. (2021). GARBHA SANSKAR: FOR HEALTHY PROGENY (SUPRAJA NIRMAN). *World Journal of Pharmaceutical Research*, 10(2), 368-371.
- Pereira, B., Andrew, G., Pednekar, S., Pai, R., Pelto, P., & Patel, V. (2007, September). The explanatory models of depression in low income countries: Listening to women in India. *Journal of Affective Disorders*, 102(1–3), 209–218. <https://doi.org/10.1016/j.jad.2006.09.025>
- Poswal, D. (2022, January 31). Effect of Traditional Ritual 'Garbhotsav Sanskar' on Infant's Mental Health in Karnal District Haryana: A Case Study. *Dev Sanskriti Interdisciplinary International Journal*, 19, 34–37. <https://doi.org/10.36018/dsij.v18i.229>
- Prady, S. L., Pickett, K. E., Croudace, T., Mason, D., Petherick, E. S., McEachan, R. R., Gilbody, S., & Wright, J. (2015, September 28). Maternal psychological distress in primary care and association with child behavioural outcomes at age three. *European Child & Adolescent Psychiatry*, 25(6), 601–613. <https://doi.org/10.1007/s00787-015-0777-2>
- Rodrigues, M., Patel, V., Jaswal, S., & de Souza, N. (2003, November). Listening to mothers: qualitative studies on motherhood and depression from Goa, India. *Social Science & Medicine*, 57(10), 1797–1806. [https://doi.org/10.1016/s0277-9536\(03\)00062-5](https://doi.org/10.1016/s0277-9536(03)00062-5)
- Sahoo, S., Gill, G., Sikka, P., & Nehra, R. (2023). Antenatal depression and anxiety in Indian women: A systematic review. *Industrial Psychiatry Journal*, 32(2), 222–233. [https://doi.org/10.4103/ipj.ipj\\_156\\_22](https://doi.org/10.4103/ipj.ipj_156_22)
- Satyapriya, M., Nagarathna, R., Padmalatha, V., & Nagendra, H. (2013). Effect of integrated yoga on anxiety, depression & well being in normal pregnancy. *Complementary Therapies in Clinical Practice*, 19(4), 230–236. <https://doi.org/10.1016/j.ctcp.2013.06.003>
- Severo, M., Ventriglio, A., Bellomo, A., Iuso, S., & Petito, A. (2023, March 20). Maternal perinatal depression and child neurocognitive development: A relationship still to be clarified. *Frontiers in Psychiatry*, 14. <https://doi.org/10.3389/fpsy.2023.1151897>

- Shanbhag, V., Chandra, P., Desai, G., Bagadia, A., Dref, M. L., & Bhat, S. (2023). "If They Don't Ask, We Don't Share" – A Qualitative Study on Barriers and Facilitators to Discussing Mental Health with Obstetric Care Providers in Urban Anganwadis among Pregnant Women in India. *Indian Journal of Social Psychiatry*, 39(3), 215–220. [https://doi.org/10.4103/ijsp.ijsp\\_117\\_23](https://doi.org/10.4103/ijsp.ijsp_117_23)
- Shindhe, V., Trivedi, D. J., & Naravi, A. (2015). Garbhasanskar: Knowledge, Attitude and Practice among Antenatal Mothers of Dharwad, Karnataka. *International Journal of Advances in Nursing Management*, 3(4), 319. <https://doi.org/10.5958/2454-2652.2015.00025.6>
- Singer, L. T., Fulton, S., Davillier, M., Koshy, D., Salvator, A., & Baley, J. E. (2003, August). Effects of Infant Risk Status and Maternal Psychological Distress on Maternal-Infant Interactions During the First Year of Life. *Journal of Developmental & Behavioral Pediatrics*, 24(4), 233–241. <https://doi.org/10.1097/00004703-200308000-00003>
- Singh O. P. (2018). Closing treatment gap of mental disorders in India: Opportunity in new competency-based Medical Council of India curriculum. *Indian journal of psychiatry*, 60(4), 375–376. [https://doi.org/10.4103/psychiatry.IndianJPsychiatry\\_458\\_18](https://doi.org/10.4103/psychiatry.IndianJPsychiatry_458_18)
- Sharma, K., Lakhiwal, P., Sharma, M., & Gehlot, A. (2023). Ancient Embryological Wisdom - a scientific explanation in the light of epigenetics. *International Journal for Research in Applied Science and Engineering Technology*, 11(8), 1432–1439. <https://doi.org/10.22214/ijraset.2023.55374>
- Vats, B., Tanwar, S., & Panda, J. K. (2023, May 31). CONCEPTUAL OVERVIEW OF GARBHADHAN SANSKAR - ONE STEP TOWARDS HEALTHY PROGENY. *International Ayurvedic Medical Journal*, p7(4), 335–339. <https://doi.org/10.46607/iamj05p7042023>
- Vaishnav, S. B., Mody, S. K., Sheth, V., Asrani, M., Ganjiwale, J., Sapre, S., & Raithatha, N. (2023). Impact of mindfulness-based interventions in the prenatal period on maternal mental health: A quasi experiment. *Research Square (Research Square)*. <https://doi.org/10.21203/rs.3.rs-3448125/v1>
- Woods, S. M., Melville, J. L., Guo, Y., Fan, M. Y., & Gavin, A. (2010, January). Psychosocial stress during pregnancy. *American Journal of Obstetrics and Gynecology*, 202(1), 61.e1-61.e7. <https://doi.org/10.1016/j.ajog.2009.07.041>

