

**“AN INTEGRATIVE OVERVIEW ON ANEMIA IN PREGNANCY
(GARBHINI PANDU): AYURVEDIC AND MODERN PERSPECTIVES”**

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ABSTRACT

Background: Anemia in pregnancy, particularly iron deficiency anemia (IDA), remains a critical public health challenge globally, with a disproportionately high prevalence in low- and middle-income countries. According to the WHO, approximately 40% of pregnant women are anemic, impacting maternal and fetal outcomes. Ayurveda describes a similar condition as *Garbhini Pandu*, primarily caused by *Rasa* and *Rakta Dhatu Kshaya* due to poor digestion (*Agnimandya*), improper diet, and the physiological demands of pregnancy. **Methodology:** This review-based conceptual study involved a detailed analysis of classical Ayurvedic texts (*Charaka Samhita*, *Ashtanga Hridaya*, *Kashyapa Samhita*, etc.), standard textbooks of modern obstetrics, WHO and Ministry of Health guidelines, and recent peer-reviewed research articles. Ayurvedic diagnostic concepts such as *Samprapti*, *Lakshana*, and *Chikitsa Sutra* were mapped to modern pathophysiology, classification, and treatment protocols. Ayurvedic formulations commonly prescribed for *Pandu Roga* were reviewed for

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pharmacological relevance and safety in pregnancy. Ayurveda emphasizes *Agnideepana*, *Rasa-Rakta Dhatu Poshana*, and *Ojas vardhana* for managing *Garbhini Pandu*. Classical preparations like *Punarnavadi Mandura*, *Navayasa Lauha*, *Dhatri Lauha*, and *Draksharishta* are widely recommended for their hematinic and rejuvenative properties. Nutritional recommendations include iron, folate, and vitamin B12-rich foods along with supportive lifestyle modifications such as rest, stress management, and regular antenatal care.

Discussion: The Ayurvedic framework provides a holistic and individualized approach to pregnancy-related anemia. However, the lack of large-scale randomized controlled trials, formulation standardization, and integration with conventional antenatal care pose limitations. Further interdisciplinary research is warranted to validate traditional interventions and bridge gaps in maternal health management. Pregnancy-related anemia requires early detection and holistic management. An integrative approach involving iron supplementation, dietary corrections, and Ayurvedic support can enhance maternal health outcomes. Greater awareness and policy-level interventions are essential for effective anemia control in antenatal care programs.

KEYWORDS: Anemia in Pregnancy, *Garbhini Pandu*, Iron Deficiency Anemia, *Dhatu Kshaya*, *Agnimandhya*, Integrative Medicine.

INTRODUCTION

Anemia during pregnancy is one of the most common medical disorders encountered globally and is associated with a range of adverse maternal and fetal outcomes, including premature birth, low birth weight, impaired cognitive development, and increased maternal mortality. According to the World Health Organization (WHO), anemia in pregnancy is defined as a hemoglobin (Hb) concentration less than 11 gm/dL, with severity further classified into mild, moderate, and severe categories. Globally, it is estimated that around 40% of pregnant women suffer from anemia, with an even higher prevalence in developing countries like India due to nutritional deficiencies, poor dietary habits, repeated pregnancies, and limited access to antenatal care.

From the perspective of Ayurveda, the condition is identified as *Garbhini Pandu*, a pathological state that corresponds closely with iron deficiency anemia in modern medicine. It arises primarily from *Rasa Kshaya* and *Rakta Kshaya*—depletion of the fundamental nutritive fluids of the body—exacerbated by *Agnimandya* (impaired digestion), inadequate or improper dietary intake, and the increased metabolic demands placed on the body during

pregnancy. Ayurveda, being a holistic science, emphasizes individualized diagnosis and treatment by considering the patient's constitution (*Prakriti*), doshic imbalance, lifestyle, and emotional health.

The classical Ayurvedic texts such as *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya* elaborate on the broader condition of *Pandu Roga*, while texts like *Kashyapa Samhita* and *Harita Samhita* refer specifically to maternal depletion and complications during pregnancy. The condition of *Garbhini Pandu* is categorized under *Garbhini Vyapad*—pregnancy-related disorders—and is viewed through the lens of systemic imbalance affecting maternal and fetal nourishment (*Garbha Poshan*).

This article aims to explore and bridge the Ayurvedic and modern scientific understanding of pregnancy-related anemia, offering an integrative management approach through classical references, dietary recommendations, lifestyle interventions, and safe medicinal formulations. By evaluating traditional concepts alongside contemporary practices, this review hopes to contribute to holistic maternal healthcare and open new avenues for integrative prenatal care.

CLASSIFICATION OF ANEMIA

Modern Classification (by Hb % Levels)

Severity	Hemoglobin (Hb%) Level	Clinical Implication
Normal	$\geq 11.0\text{g/dL}$	No anemia
Mild	10.0 – 10.9g/dL	Regular monitoring needed
Moderate	7.0 – 9.9g/dL	Treatment necessary (IFA, etc.)
Severe	4.0 – 6.9g/dL	Urgent intervention (IV iron/blood)
Very Severe	$< 4.0\text{g/dL}$	Medical emergency

AYURVEDIC CORRELATION - GARBHINI PANDU

Garbhini Pandu is correlated with Iron deficiency anemia during pregnancy. It arises from *Rasa kshaya* and *Rakta Kshaya* (depletion of blood) due to poor digestion, improper diet, and the physiological demands of pregnancy.

In classical references

- ***Pandu Roga*** is described in detail in texts like *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya*.
- While the term ***Garbhini Pandu*** is not separately elaborated in great depth, its occurrence is acknowledged under ***Garbhini Vyapad*** (pregnancy-related disorders).

- *Kashyapa Samhita* and *Harita Samhita* emphasize the depletion of maternal strength and *Rakta* during pregnancy.

ETIOLOGY OF ANEMIA IN PREGNANCY

- *Ahara* (Dietary Factors) - Incompatible, nutrient-deficient, heavy, cold food.
- *Vihara* (Lifestyle Factors) - Overexertion, suppression of natural urges, disturbed sleep, lack of physical activity, sedentary life style.
- *Agnimandhya* (Impaired Digestion) - Impaired digestive fire due to poor lifestyle and diet.
- *Dhatu Kshaya* (Tissue Depletion) - Vitiation of *Rasa* and *Rakta Dhatus*.
- *Dosha Dushti* (Dosha Vitiation) - Aggravation of *Pitta* causes *Rakta Paka* (burning and vitiation of blood)
- *Garbha Poshan Dourbalya* (Fetal Nutrition Deficit) - Inability of the maternal system to meet the nutritional demands of the growing fetus due to impaired *Rasa-Rakta Dhatu* formation.
- *Manasika Bhava* (Psychological Factors) - Chronic anxiety, sadness, fear, or emotional instability may contribute to weakened *Agni* and deranged *Doshas*, further aggravating *Pandu Roga*

SYMPTOMS

गर्भिणी पाण्डु लक्षण (Garbhini Pandu Lakshana) – Ayurvedic and Modern Correlation		
Ayurvedic Lakshana. (Source: <i>Charaka, Kashyapa, Bhavaprakasha</i>)	Interpretation	Modern Correlated Sign/Symptom
त्वचा, नेत्र, नख, ओष्ठों की पाण्डुता (<i>Pāṇḍutā</i>)	Pallor of skin, eyes, nails, lips	Pallor – skin, conjunctiva, nails, lips
दौर्बल्य (<i>Daurbalya</i>)	General weakness or fatigue	Fatigue, low energy, tiredness
श्रमसा (<i>Śramasā</i>)	Easy fatigability	Exertional dyspnea, weakness
हृदय स्पन्दन (<i>Hṛdaya spandana</i>)	Palpitations	Tachycardia / palpitations
श्वास कष्ट (<i>Śvāsa kaṣṭa</i>)	Breathlessness	Dyspnea on exertion
अक्षिपाक (<i>Akṣipāka</i>)	Burning sensation or inflammation in eyes	Eye strain, dry eyes due to iron deficiency
स्वप्नविघात (<i>Svapna vighāta</i>)	Disturbed sleep	Insomnia / restless sleep
भ्रम (<i>Bhrama</i>)	Dizziness	Vertigo or giddiness

ह्रस्व श्वास (<i>Hrasva śvāsa</i>)	Shallow breathing	Tachypnea
मुखवैकल्य (<i>Mukhavaikalya</i>)	Tastelessness or altered taste	Glossitis, taste disturbances
अरोचक (<i>Arocaka</i>)	Anorexia, loss of appetite	Anorexia or nausea
मंदाग्नि (<i>Mandāgni</i>)	Weak digestion	Loss of appetite, constipation
मनः शैथिल्य (<i>Manah śaithilya</i>)	Mental dullness or lack of concentration	Irritability, poor focus
बल, वर्ण, ओज हास (<i>Bala, Varṇa, Ojas hāni</i>)	Loss of strength, complexion, immunity	General debility, low immunity, pale appearance

SAMPRAPTI (PATHOGENESIS)

Nidana (During Pregnancy)

(Causes) (Poor diet & lifestyle Hormonal imbalance Stress & weak digestion (Mandagni)



Rasa Dhatu Dushti



Incomplete *Rakta Dhatu* formation



Rakta Kshaya



Pandu Roga (Garbhini Pandu)



Lakshana (Symptoms) Palpitation, Fatigue, Pallor, Breathlessness, etc.

- In pregnancy: Increased nutrient demand → Aggravated *Dhatu Kshaya*
- *Vata-Pitta* aggravation worsens tissue depletion, leading to characteristic signs of *Pandu*

TYPES OF ANEMIA IN PREGNANCY (MODERN & AYURVEDIC VIEW)

Type	Cause	Ayurvedic View
Iron Deficiency	Poor iron intake/absorption	<i>Rasa-Rakta Dhatu Kshaya</i>
Megaloblastic	Folic acid/B12 deficiency	<i>Agnimandhya, Rasa Dushti</i>
Hemolytic	RBC destruction (e.g. thalassemia)	<i>Pitta Dushti, Rakta Paka</i>
Aplastic	Bone marrow failure	<i>Majja Dhatu Kshaya, Shrotoavarodha</i>
Chronic Disease	Related Ongoing illness/inflammation	<i>Shrotodushti, Dosha aggravate</i>

AYURVEDIC TREATMENT PRINCIPLES FOR GARBHINI PANDU

- *Agnideepana & Ama Pachana* - Stimulate digestion, eliminate toxins using mild non-irritating agents

- **Rasa & Rakta Dhatu Poshana** - Nourish plasma and blood tissues with Rasayana and iron-rich herbs
- **Dhatu Vardhana** - Support overall tissue nutrition: *Rasa, Rakta, Mamsa, Majja*
- **Ojasvardhana** - Enhance vitality and immunity to support fetal development
- **Beeja Shuddhi & Garbha Poshan** - Balance nourishment to prevent fetal complications

COMMONLY USED AYURVEDIC FORMULATIONS

Formulation	Main Actions	Use in Garbhini Pandu
<i>Punarnavadi Mandura</i>	<i>Deepana</i> , Raktavardhaka, hepatoprotective	Classical choice for <i>Pandu</i> ; safe under monitoring
<i>Navayasa Lauha</i>	Iron-rich, mild laxative	Builds Hb, improves Agni
<i>Draksharishta</i>	<i>Balya</i> , Raktaprasadaka	Improves appetite, strength, blood formation
<i>Dhatri Lauha</i>	Amla + Lauha + herbs	Gentle tonic; safe in pregnancy
<i>Lauha Bhasma</i>	<i>Raktavardhak</i> , <i>Rasayana</i>	Used in micro doses under expert supervision

MODERN TREATMENT PRINCIPLES OF ANEMIA IN PREGNANCY

- **Diagnose Type and Severity** - CBC, serum ferritin, B12, folate, smear, electrophoresis
- **Identify Underlying Cause** - Evaluate for deficiencies, malabsorption, chronic disease, or genetic causes
- **Treat Based on Cause** - Supplement iron, folic acid, vitamin B12, or address specific anemia type
- **Monitor Response** - Regular Hb tracking, manage side effects, adjust form/dose
- **Prevent Recurrence** - Diet education, compliance, birth spacing, early detection in future pregnancies

DIET AND LIFE STYLE RECOMMENDATIONS

Ahara (Diet)

- **Iron-rich:** Leafy greens, dates, jaggery, pomegranate
- **Folate-rich:** Oranges, bananas, legumes
- **Vitamin B12-rich:** Milk, yogurt, cheese, eggs
- **Vitamin C-rich:** Amla, lemon, guava (enhances iron absorption)
- **Rasa-Pradhan Dravyas:** Draksha, Amalaki, Guduchi

Vihara (Lifestyle)

- **Adequate rest;** avoid overexertion and stress
- **Hydration** and regular **antenatal check-ups**

- **Yoga and meditation** to manage mental health

CONCLUSION

Anemia during pregnancy significantly impacts maternal and neonatal outcomes. The Ayurvedic framework of *Garbhini Pandu* provides a holistic lens to view and manage gestational anemia. Interventions targeting *Agnideepana*, *Rasa-Rakta Poshana*, and *Ojasvardhana*, complemented by safe classical formulations like *Punarnavadi Mandura*, *Dhatri Lauha*, and *Navayasa Lauha*, offer promising avenues when used under supervision.

However, to integrate Ayurveda in to mainstream prenatal care, standardization of protocols, clinical validation, and safety studies are essential. A multidisciplinary approach blending modern diagnostics with Ayurvedic therapeutics could redefine maternal care in India and beyond.

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