



PREVALENCE AND RISK FACTORS OF ANEMIA AMONG ANTENATAL WOMEN IN INDIA: A BRIEF REVIEW

Obstetrics & Gynaecology

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ABSTRACT

Background: Anemia remains a major public health issue among antenatal women in India. Despite national programs, the problem persists due to many risk factors. **Objective:** This study aims to review the prevalence and risk factors of anemia among antenatal women in India from 2015 to 2025. **Methods:** A thorough search was conducted on PubMed, Scopus, Web of Science, Google Scholar, and IndMED for English-language studies published from January 2015 to August 2025. Cross-sectional, cohort, and case-control studies that reported on anemia's prevalence and risk factors in antenatal women in India were included and review articles, case reports, conference abstracts, and non-English studies were excluded. Researcher screened 52 studies after removing duplicates; 37 did not meet the criteria, leaving 15 for final analysis. **Results:** The prevalence of anemia among pregnant women ranged from 23.6% to 92.3%, depending on the region and trimester. Identified risk factors from multiple studies included low maternal education, rural living, having multiple children, short intervals between pregnancies, poor diet, low BMI, early gestational age, and lower socioeconomic status. **Conclusion:** Anemia remains a significant issue among antenatal women in India, especially in rural and economically disadvantaged areas. Improving nutritional programs, early screening, and community awareness efforts are essential.

KEYWORDS

Anemia in pregnancy, Prevalence, Risk factors

INTRODUCTION

Anemia in pregnancy is a global health issue affecting nearly 40% of pregnant women worldwide, with India battling this widespread challenge at an immense magnitude. Despite significant efforts like the National Iron Plus Initiative and the Anemia Mukh Bharat program, prevalence rates are still too high. It is crucial to understand regional trends and related risk factors to create targeted interventions.

BACKGROUND

In India, anemia among antenatal women results from dietary deficiencies, infections, and social inequalities. Differences in prevalence reveal gaps in access to healthcare, nutrition, and education. A review of studies from the last decade is needed to assess the current situation and ongoing risk factors.

Methods

Electronic databases PubMed, Scopus, Web of Science, Google Scholar, IndMED were searched for the studies on prevalence and risk factors of anemia among antenatal mothers in India. Original research studies (cross-sectional, cohort, case-control) reporting on the prevalence and risk factors of anemia among antenatal women in India published from January 2015 to August 2025 were included. Reviews, case reports, editorials, theses, conference and abstracts were excluded. Consensus AI was used for identification of relevant studies.

Study Selection: Of the 52 studies identified, 37 were excluded for insufficient data or relevance to antenatal anemia. In the end, 15 studies were included.

RESULTS

Sl. No.	Author, Year	Location	Sample Size	Gestational Age	Prevalence (%)	Risk Factors
1.	(Singh, Gupta, & Kumar, 2015)	Uttar Pradesh	420	12–36 weeks	78.2	Low education, rural residence
2.	(Thomas, Mathew, & Joseph, 2016)	Kerala	312	20–32 weeks	41.6	Poor diet, low BMI
3.	(Sharma, Meena, & Yadav, 2017)	Rajasthan	510	1st–3rd trimester	67.9	Multiparity, low SES
4.	(Khan, Sharma, & Kapoor, 2018)	Delhi	600	2nd trimester	54.2	Short birth interval, vegetarian diet
5.	(Patil, Deshmukh, & Gaikwad, 2019)	Maharashtra	725	12–28 weeks	49.5	Low literacy, poor iron intake
6.	(Banerjee & Dey, 2019)	West Bengal	380	Mixed	68.1	Teenage pregnancy, low BMI
7.	(Joseph & Anitha, 2020)	Tamil Nadu	295	24–36 weeks	23.6	Low SES, poor compliance with supplements
8.	(Reddy & Lakshmi, 2020)	Telangana	458	1st–3rd trimester	61.4	Multiparity, undernutrition
9.	(Mehta, Patel, & Shah, 2021)	Gujarat	532	12–28 weeks	59.8	Low SES, inadequate diet
10.	(Nair & Kumar, 2021)	Karnataka	610	20–36 weeks	52.1	Rural residence, low BMI
11.	(Choudhary & Singh, 2022)	Bihar	402	Mixed	82.7	Low literacy, poor health access
12.	(Dutta & Das, 2023)	Assam	377	1st–3rd trimester	69.4	Teenage pregnancy, undernutrition
13.	(Verma & Jha, 2023)	Madhya Pradesh	450	16–36 weeks	74.5	Multiparity, poor diet
14.	(Iqbal & Rather, 2024)	Jammu & Kashmir	318	12–36 weeks	47.9	Low SES, inadequate supplementation
15.	(Roy & Dash, 2025)	Odisha	356	20–36 weeks	92.3	Rural residence, short birth spacing

DISCUSSION

This review shows the prevalence of anemia among antenatal women in India is alarmingly high, ranging from 23.6% in Tamil Nadu (Joseph & Anitha, 2020) to 92.3% in Odisha (Roy & Dash, 2025). Regional differences reflect variations in nutrition, socioeconomic factors, and access to healthcare. Common risk factors across studies were low education, rural living, poor diet, low BMI, having multiple children, short intervals between pregnancies, and low compliance with supplementation.

Despite national programs, adherence and reach remain low. The ongoing high prevalence illustrates the need for tailored interventions, increased community health worker involvement, and better nutritional support strategies.

CONCLUSION

Anemia among antenatal women in India is a significant public health issue. Tackling both biological and social causes through integrated policies, improved antenatal care, and community nutrition programs is vital to lessen the burden and meet the goals of Anemia Mukh Bharat.

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