ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue VIII August 2025

Socioeconomic Factors Contributing to Anemia in Pregnancy

Shivani[1], Dr. Neetu Yadav[2], Dr. Shalu Nehra[3]

[1]M.Sc. Scholar, Department of Home Science, Swami Vivekanand Subharti University, Meerut, India

[2,3]Assistant Professor, Department of Home Science, Swami Vivekanand Subharti University, Meerut, India

DOI: https://doi.org/10.51244/IJRSI.2025.120800103

Received: 22 Aug 2025; Accepted: 29 Aug 2025; Published: 10 September 2025

ABSTRACT

Anemia in pregnancy is a major global health problem affecting nearly 40% of women worldwide, with higher prevalence in low- and middle-income countries. Iron deficiency remains the leading cause, but socioeconomic factors such as income, education, occupation, and healthcare access significantly influence anemia risk. This study, conducted among 250 pregnant women attending antenatal care at Subharti Hospital, Meerut, aimed to investigate how socioeconomic disparities contribute to anemia prevalence. Data were collected using structured questionnaires and medical records. Statistical analysis revealed strong associations between anemia and lower education ($p<0.01$), low income ($p<0.01$), limited antenatal visits ($p<0.05$), poor dietary diversity ($p<0.01$), and lack of supplementation ($p<0.01$). Cultural restrictions and weak social support further exacerbated the problem. The findings highlight that beyond biological causes, socioeconomic inequalities play a pivotal role in maternal anemia. Strengthening health education, improving dietary intake, ensuring affordable supplements, and enhancing healthcare access can significantly reduce the burden of anemia in pregnancy.

Keywords— Anemia in pregnancy, Socioeconomic factors, Iron deficiency, Maternal health, India

INTRODUCTION

Anemia in pregnancy is a significant public health concern globally and is particularly prevalent in developing countries, where nutritional deficiencies and socio-economic inequalities are widespread. According to the World Health Organization (WHO, 2021), approximately 41.8% of pregnant women worldwide are anemic, with India alone contributing to a large proportion of cases. In India, maternal anemia is one of the leading causes of maternal morbidity and mortality, affecting both maternal and neonatal outcomes (RamaRao et al., 2015).

Iron deficiency remains the most common cause, but folate and vitamin B12 deficiencies also play critical roles (Cogswell et al., 2013). The physiological demand for iron increases sharply during pregnancy due to expansion of maternal blood volume, placental development, and fetal growth (Dror & Allen, 2011). When this demand is not met, anemia develops, leading to complications such as preterm delivery, low birth weight, stillbirth, and maternal death (Bhatia et al., 2016).

However, anemia is not only a nutritional disorder but also a socially determined health condition. Studies highlight that women from low socio-economic groups are disproportionately affected due to inadequate access to healthcare, poor dietary diversity, and low educational attainment (Mohan et al., 2020; Singh et al., 2018). Cultural food restrictions, early marriages, high parity, and lack of social support further exacerbate the problem (Kumar et al., 2019).

Given these challenges, the present study seeks to examine the socioeconomic determinants of anemia in pregnancy in Meerut district, Uttar Pradesh. By analyzing income, education, occupation, healthcare access, and cultural practices, the study aims to provide evidence for designing integrated nutritional and socio-economic interventions.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue VIII August 2025

REVIEW OF LITERATURE

Previous studies highlight that anemia prevalence is highest among women from rural and low-income groups. Galloway (2003) reported up to 60% prevalence in developing countries, while Mohan et al. (2020) found strong links between low SES and anemia risk. Dror & Allen (2011) identified poor dietary intake as a major contributor, whereas RamaRao et al. (2015) emphasized maternal education as a protective factor. Cultural dietary restrictions and inadequate supplementation also worsen the condition. Despite multiple interventions, anemia remains persistently high, suggesting the need for context-specific research.

Objectives

1. To examine the relationship between socioeconomic status and anemia prevalence in pregnancy.

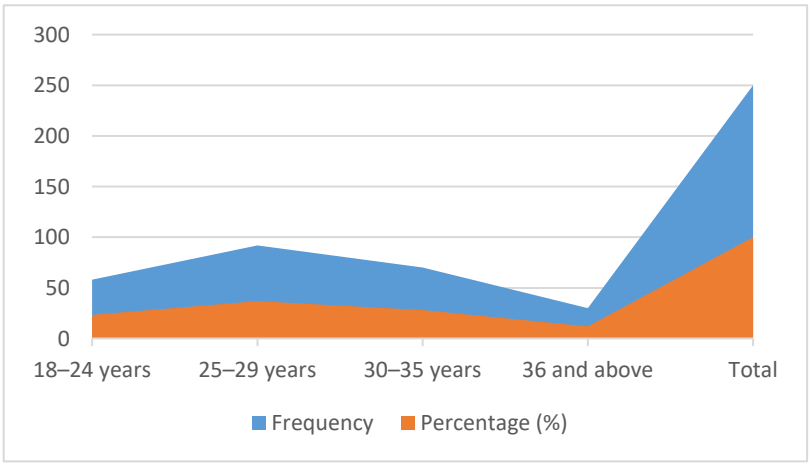
METHODOLOGY

- **Study Design:** Cross-sectional descriptive study.
- **Study Area:** Meerut, Uttar Pradesh.
- **Sample Size:** 250 pregnant women aged 25–35 years.
- **Tools:** Structured questionnaire (covering socioeconomic factors, living conditions, cultural practices, and social support) and medical records for hemoglobin levels.
- **Analysis:** Descriptive statistics and chi-square tests using SPSS.

RESULTS AND DISCUSSION

Table 1: Age Distribution of Respondents (N=250)

Age Group	Frequency	Percentage (%)
18–24 years	58	23.2
25–29 years	92	36.8
30–35 years	70	28.0
36 and above	30	12.0
Total	**250**	**100**

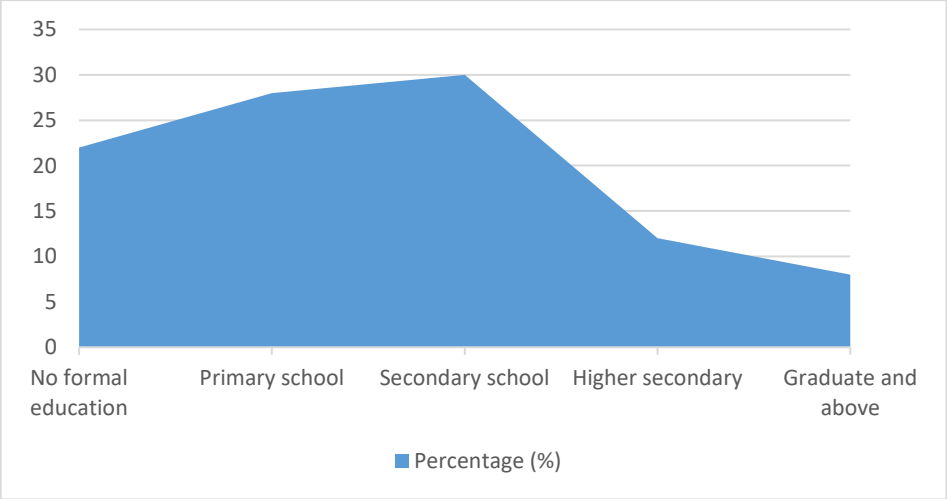


ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue VIII August 2025

Most respondents were young adults, with the highest proportion (36.8%) in the 25–29 years group. This reflects national data where anemia is most common in reproductive-age women, particularly in younger age groups due to poor dietary intake and early pregnancies (WHO, 2021). Similar findings were reported by Viveki et al. (2012), who observed that women aged 20–29 years had the highest anemia prevalence in Karnataka, India.

Table 2: Educational Status of Respondents

Education Level	Percentage (%)
No formal education	22
Primary school	28
Secondary school	30
Higher secondary	12
Graduate and above	8

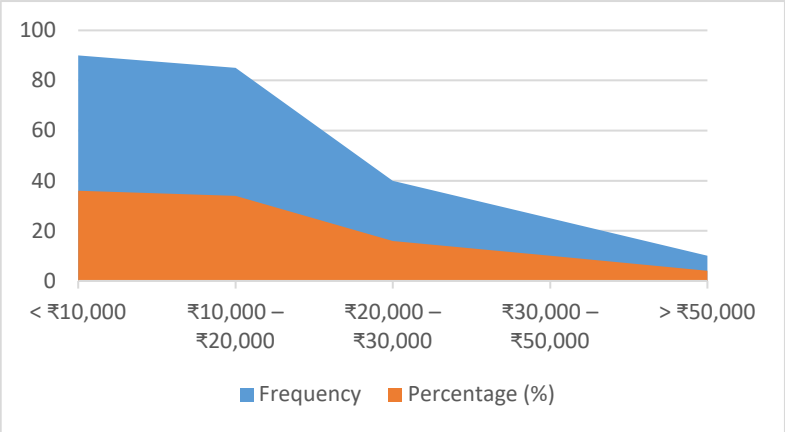


Nearly half of the participants (50%) had only primary or no education. Women with lower education had significantly higher anemia prevalence ($p<0.01$). Education influences awareness of nutrition and supplement use; RamaRao et al. (2015) similarly concluded that uneducated women were less likely to consume iron–folic acid tablets, resulting in higher anemia prevalence.

Table 3: Monthly Household Income

Income Group	Frequency	Percentage (%)
< ₹10,000	90	36.0
₹10,000 – ₹20,000	85	34.0
₹20,000 – ₹30,000	40	16.0
₹30,000 – ₹50,000	25	10.0
> ₹50,000	10	4.0

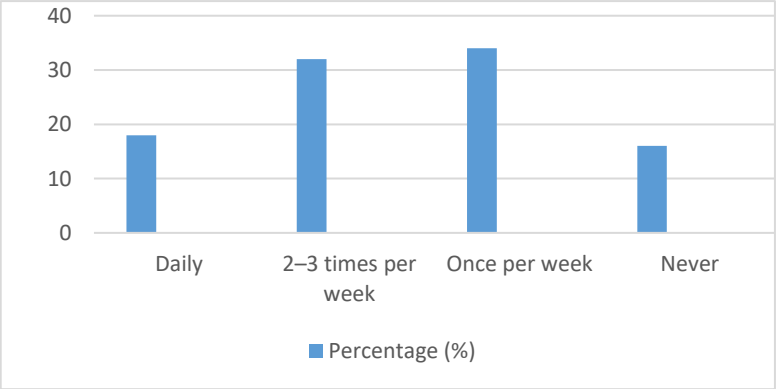
ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue VIII August 2025



Around 70% of respondents belonged to households earning below ₹20,000/month, indicating poor financial resources. Low income limits access to diverse and iron-rich foods, increasing anemia risk. Dror & Allen (2011) highlighted that dietary diversity is strongly correlated with income levels, especially in low-income regions. Mohan et al. (2020) also confirmed that women from lower SES groups in rural India faced higher anemia rates due to poor affordability of supplements and healthcare.

Table 4: Dietary Intake of Iron-Rich Foods

Frequency of Intake	Percentage (%)
Daily	18
2–3 times per week	32
Once per week	34
Never	16



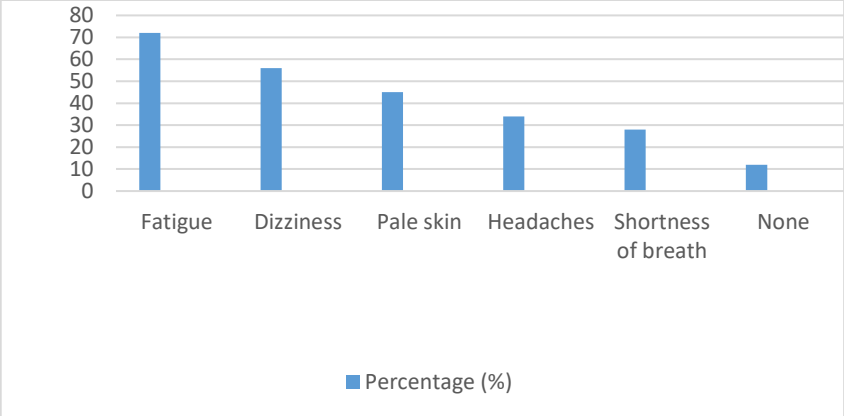
Only 18% consumed iron-rich foods daily, while 16% never consumed them. Poor dietary diversity was a strong predictor of anemia ($p<0.01$). Similar results were reported by Toteja et al. (2006), who found that inadequate dietary iron intake was a key factor for high anemia prevalence (85%) among Indian women. Cultural practices restricting animal-source foods further aggravate this issue (Kumar et al., 2019).

Table 5: Self-Reported Symptoms of Anemia

Symptom	Percentage (%)
Fatigue	72
Dizziness	56

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue VIII August 2025

Pale skin	45
Headaches	34
Shortness of breath	28
None	12



Fatigue (72%) and dizziness (56%) were the most commonly reported symptoms. A similar symptom profile was described by Bhatia et al. (2016), who linked chronic fatigue and breathlessness to moderate-to-severe anemia in pregnant women. Interestingly, 12% reported no symptoms despite low hemoglobin, reflecting the "hidden burden" of anemia that requires laboratory diagnosis rather than symptom-based assessment (Teichman et al., 2021).

CONCLUSION

This study demonstrates that anemia in pregnancy is strongly influenced by socioeconomic factors beyond biological deficiencies. Low income, poor education, limited antenatal visits, cultural restrictions, and weak social support all contribute to its persistence. Policies should integrate **healthcare access with socio-economic interventions**, including nutrition education, affordable supplementation, and community-based awareness campaigns. Addressing these determinants is essential to reduce anemia prevalence and improve maternal health outcomes in India.

REFERENCES

1. Bhatia, P., Sharma, S., & Gupta, M. (2016). Anemia in pregnancy: Prevalence and impact. *Indian J Med Res*, 144(6), 885-890.
2. Mohan, P., Madan, N., & Thomas, S. (2020). Socioeconomic disparities in maternal health. *Int J Public Health*, 65(5), 593-602.
3. Singh, R., Singh, P., & Joshi, S. (2018). Urban-rural differences in anemia during pregnancy. *BMC Pregnancy and Childbirth*, 18(1), 254.
4. Kumar, A., Singh, R., & Gupta, S. (2019). Cultural practices and maternal anemia. *Health Policy and Planning*, 34(7), 534-539.
5. Viveki, R. G., et al. (2012). Prevalence of anaemia and its determinants in pregnant women. *Al Ameen J Med Sci*, 5(3), 216-23.
6. Toteja, G. S., et al. (2006). Prevalence of anemia among pregnant women and adolescent girls in 16 districts of India. *Food Nutr Bull*, 27(4), 311-315.
7. Teichman, J., et al. (2021). Suboptimal iron deficiency screening in pregnancy. *Blood Advances*, 5(22), 4666–4673.
8. WHO (2021). Anaemia in pregnancy. https://www.who.int/nutrition/topics/anaemia
9. RamaRao, S., Puri, M., & Sastry, N. (2015). Anemia, pregnancy outcomes, and maternal mortality. *Lancet Global Health*, 3(5), e244-e251.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue VIII August 2025

10. Cogswell, M. E., Looker, A. C., & Lacher, D. A. (2013). Iron status of the U.S. population. *Am J Clin Nutr*, 98(6), 1333-1342.
11. Dror, D. K., & Allen, L. H. (2011). Effect of vitamin B12 deficiency on pregnancy and infant outcomes. *Am J Clin Nutr*, 94(6), 1680S-1686S.