Non-iron Deficiency Anemia in Rural Indian Women: A Cross-Sectional Study

[**Somen Saha**](https://www.cureus.com/users/243529-somen-saha)**•**[**Tapasvi Puwar**](https://www.cureus.com/users/338823-tapasvi-puwar)**•**[**Komal Shah**](https://www.cureus.com/users/354659-dr-komal-shah)**• [Apurvakumar Pandya](https://www.cureus.com/users/160773-apurvakumar-pandya" \t "_blank) •**[**Mayur B. Wanjari**](https://www.cureus.com/users/300788-mayur-b-wanjari)**•**[**Deepak Saxena**](https://www.cureus.com/users/162140-deepak-saxena)

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Abstract

**Introduction**

Anemia is an important public health concern, affecting almost 25% of the global population. In India, these statistics are even more worrisome with more than half of the children, non-pregnant and pregnant women being affected by the disease. Though the major cause of anemia is iron deficiency, other causes cannot be neglected considering the magnitude of the problem. The present study was designed to estimate the prevalence of non-iron deficiency anemia (NIDA) in Devbhoomi Dwarka District of Gujarat.

**Methods**

For this cross-sectional study, total of 258 mothers (antenatal and postnatal) were enrolled from 27 primary health centers. Apart from demographic details and obstetric history, hemoglobin and ferritin levels were measured from the participant’s blood after obtaining consent. Clinical information such as the history of recent illness and fever were also noted through questionnaires. Prevalence was anemia was calculated using a standard threshold of blood hemoglobin and NIDM was defined using ferritin levels.

**Results**

As per hemoglobin levels, anemia was present in 65.9% of the mothers, which was relatively higher in antenatal women (90%) as compared to postnatal women (57%). Ferritin levels showed that out of this total anemic mothers, 61.8% (105/258) have normal ferritin levels indicating the presence of non-iron deficiency. Trimester-wise analysis of anemia in AN showed that NIDM prevalence increases with increasing trimester in contrast to IDA where a considerable reduction was found with iron supplementation.

**Conclusion**

The study indicated that two out of every three women were anemic and only one out of four were anemic with depleted iron storage. These findings have important policy implications as in India the anemia control programs address only iron deficiency anemia and not NIDA. The development of a