

Efficacy of Iron Sucrose vs Ferric Carboxymaltose for Moderate Anemia in Pregnancy

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Abstract

Objective: To compare the efficacy of intravenous iron sucrose versus ferric carboxymaltose in improving hemoglobin (Hb), serum ferritin, and other hematological indices (MCV, MCHC, RDW) among pregnant women with moderate iron deficiency anemia (IDA) at the Federal Government Polyclinic Hospital, Islamabad.

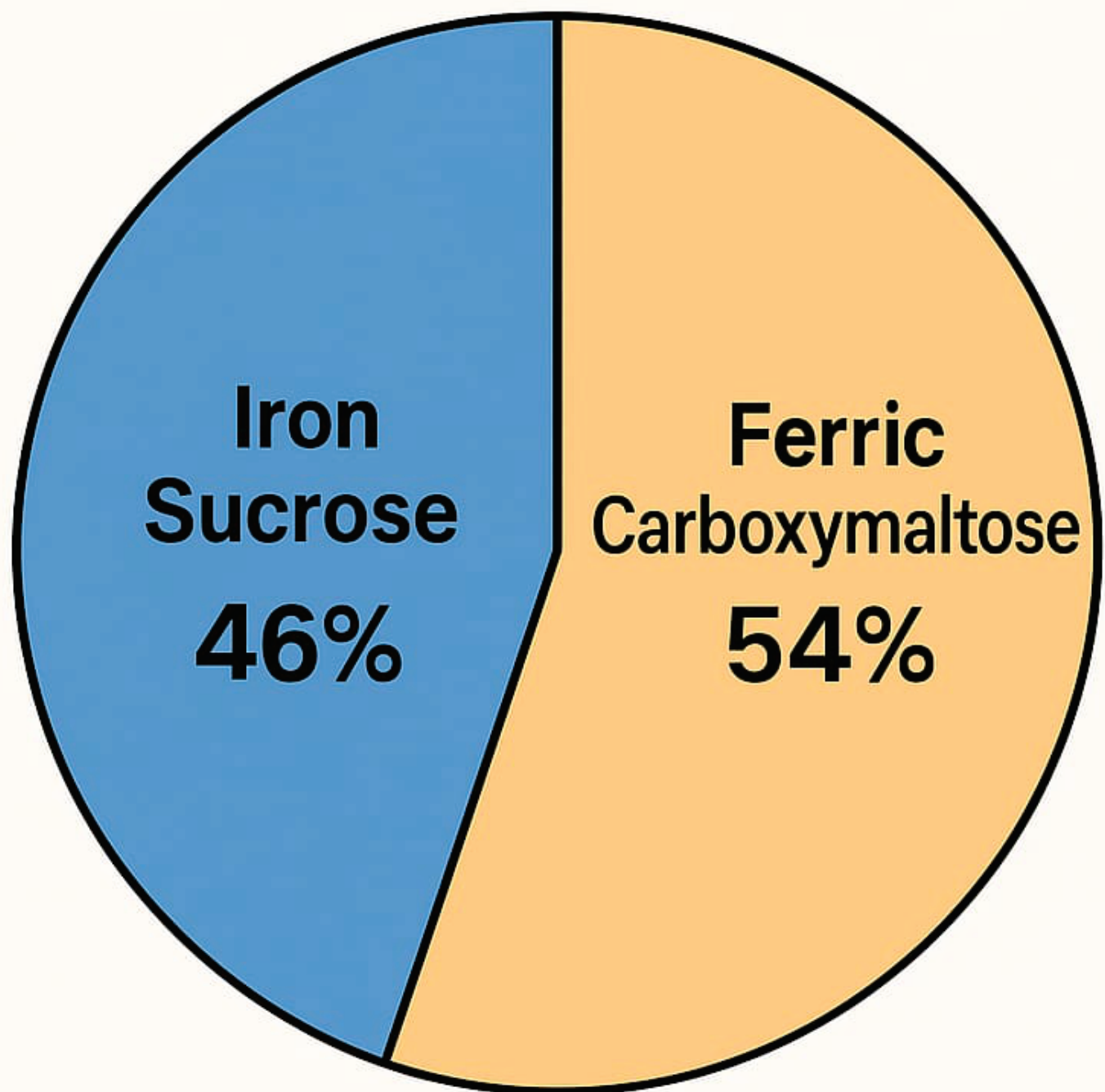
Method

A total of 200 pregnant women with moderate IDA (Hb levels 7–9.9 g/dL) were recruited using the WHO sample size calculator with a population prevalence of anemia as 36%. Participants were randomly assigned into two groups: Group A received iron sucrose, while Group B received ferric carboxymaltose. Inclusion criteria focused on moderately anemic pregnant women with no history of severe anemia, blood transfusions, or hypersensitivity to iron therapy. Baseline data, including obstetric history, Hb, serum ferritin, and hematological indices, were collected. Participants were followed up after six weeks post-intervention, and changes in these parameters were recorded. Data analysis involved statistical comparisons between groups using appropriate tests for significance.

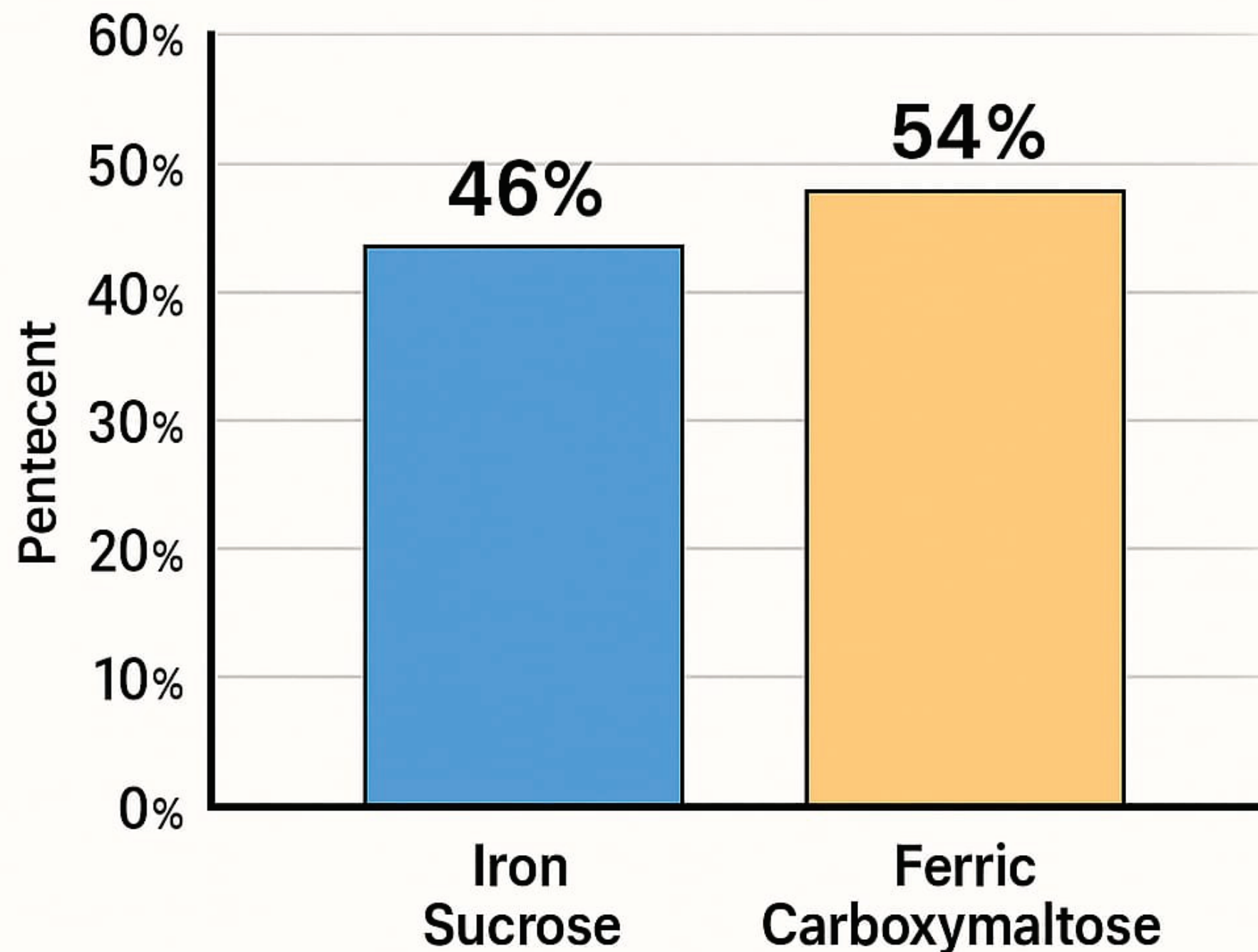
Design

A quasi-experimental study was conducted over six months to evaluate the effectiveness of two intravenous iron therapies. The study rationale was based on the need for evidence-based management of moderate IDA in pregnant women, a prevalent condition associated with adverse maternal and fetal outcomes.

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Results

Both groups showed significant improvements in Hb and serum ferritin levels six weeks post-treatment. The ferric carboxymaltose group exhibited a greater mean increase in Hb and serum ferritin compared to the iron sucrose group. Additionally, ferric carboxymaltose led to more consistent normalization of MCV, MCHC, and RDW values. The treatment was well-tolerated, with no severe adverse effects reported in either group.

Conclusions

Ferric carboxymaltose was more effective than iron sucrose in treating moderate IDA among pregnant women, providing a faster and more robust hematological response. Its efficacy, coupled with fewer doses and minimal adverse effects, makes it a preferred option for managing moderate IDA in similar clinical settings. Further research is recommended to assess its long-term maternal and fetal outcomes and cost-effectiveness in low-resource settings.