

COMPARING DIFFERENT DOSE REGIMENS OF ORAL IRON SUPPLEMENTATION FOR MANAGEMENT OF IRON DEFICIENCY ANEMIA DURING PREGNANCY

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Introduction

During pregnancy there is disproportionate increase in plasma volume up to 50%, RBC 33% and Hb 18-20% mass. In addition, there is marked demand of extra iron during pregnancy especially in the second half of pregnancy. Iron deficiency anemia is microcytic hypochromic anemia and is most common type of anemia during pregnancy. Causes of Iron deficiency anemia: Nutritional causes (60%), dimorphic anemia (due to deficiency iron and folic acid), Hemolytic anemia hemoglobinopathies. Anemia due to blood loss: Acute: Ante partum hemorrhage, postpartum hemorrhage and Chronic example bleeding per rectum. During pregnancy routine investigations are done to diagnose iron deficiency anemia: CBC, serum iron, serum ferritin, TIBC, serum trans ferrin level. Serum ferritin is the best single indicator of storage iron provided a cut-off point of 30 mg/l is used, sensitivity of 90%, and specificity 85%. Guidelines for iron deficiency anemia are different according to multiple factors that determine the regimen for management.

Grouping:

Group A (control group): pregnant women with Hb>10.5 g/dl in 2nd trimester and more than 11 in 3rd trimester: received 1 tab of 27 mg elemental iron (ferrous bisglycinate) daily for 1 month.

Group B (anemic): anemic pregnant women with Hb (7.5 - 9.5gm/dl). Then this group received subdivided into:

Group B1 (100): received 1 tab/12 hrs. /day / 3 weeks.

Group B2 (100): received 1 tab/8 hrs. /day /10 days.

Results

Table 1: Comparing the pre and post measurements of the study outcomes in group A (n= 100)

Group A only (n= 100)				
Term	Overall	Pre	Post	p-value
Hb (g/dL)	Avg (SD) 11.2 (0.6)	11.2 (0.6)	11.1 (0.6)	t: 0.1379
Ferritin (Ng/ml)	Avg (SD) 36 (19.2)	35.9 (19.4)	36.2 (19)	t: 0.9201

$\alpha = 0.05$. $p < 0.05^*$, $p < 0.01^{**}$, $p < 0.001^{***}$
P-values obtained from two-sample t-test (t) or Mann-Whitney test (U)

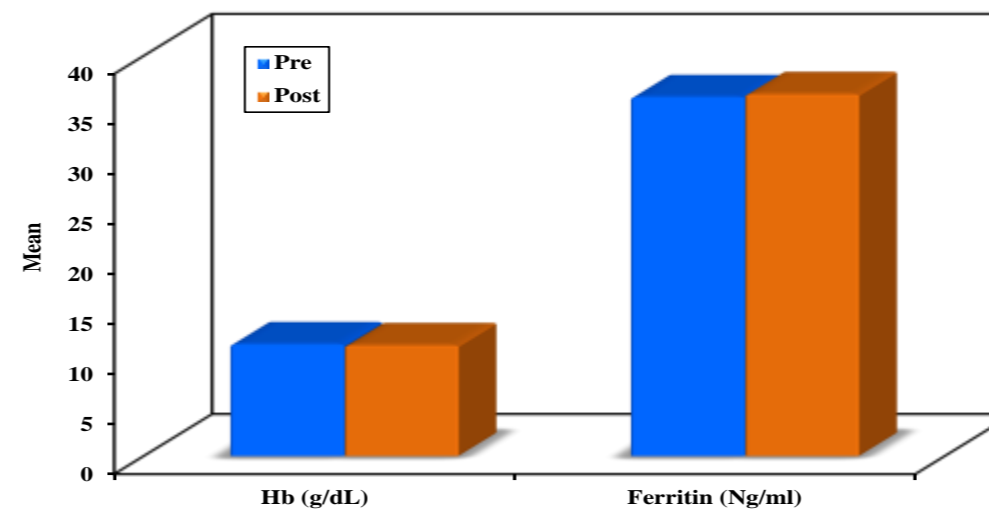


Figure 1: Comparing the pre and post measurements of the study outcomes in group A (n= 100)

Table 2: Comparing the pre and post measurements of the study outcomes in groups B1 and B2 (n= 200)

Groups B1 and B2 (n= 200)			
Term	Pre	Post	p-value
Hb (g/dL)	8.7 (0.6)	9.7 (0.5)	t: <0.001***
Ferritin (Ng/ml)	9.7 (3.6)	10.2 (3.5)	t: 0.1977

$\alpha = 0.05$. $p < 0.05^*$, $p < 0.01^{**}$, $p < 0.001^{***}$
P-values obtained from two-sample t-test (t) or Mann-Whitney test (U)

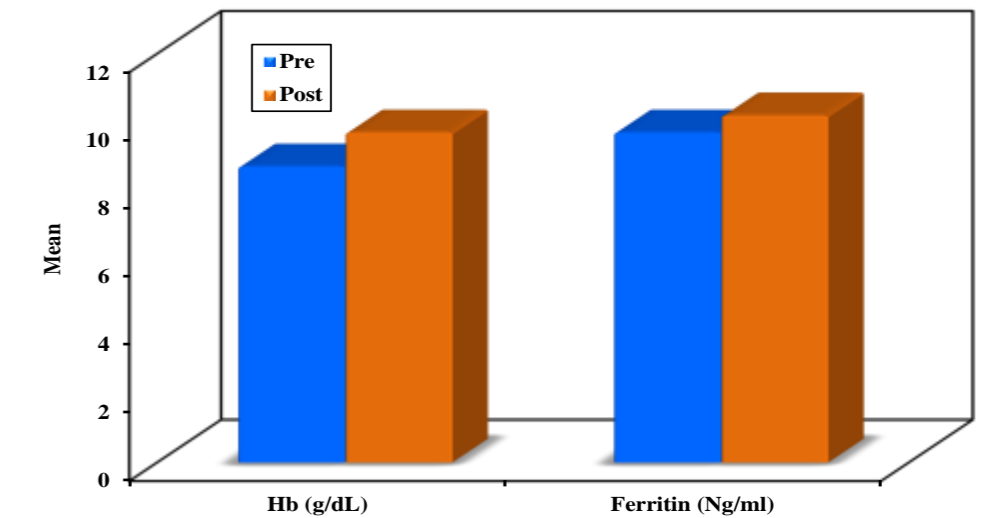


Figure 2: Comparing the pre and post measurements of the study outcomes in groups B1 and B2 (n= 200)

Aim of the Work

The aim of this study was to compare different dose regimens of iron supplements for management of moderate iron deficiency anemia during pregnancy.

Patient and Methods

Prospective cohort study were performed on 300 pregnant women at second and third trimester. The cases were collected from the obstetric clinic in El Shatby university hospital and private clinics to compare different dose regimens of iron supplements for management of IDA during pregnancy after signing their informed consent. Two groups were enrolled. All patients were pregnant at second or third trimester. Based on hemoglobin level, All groups were subjected to measure hemoglobin level (CBC) and serum ferritin before and after taking iron supplements for 2 weeks

Conclusion

Our results may, in this specific population of pregnant women, suggest that iron supplements in a dose of 27 mg/day is adequate to cover the iron needs of the anemic mother and there is no significant difference between the different sub groups (B1 and B2).