Section: Obstetrics and Gynaecology

Original Research Article

COMPARITIVE STUDY OF DAILY V/S WEEKLY IRON THERAPHY IN ANTENATAL WOMEN

Sowmya. S [1], Pooja R[2], Jayanth S [3], Yashas D M[4]

[1]*Associate Professor, Department of Obstetrics and Gynaecology, Basaveshwara Medical College Chitradurga, India.*
[2]*Assistant Professor, Department of Obstetrics and Gynaecology, Sridevi Institute of Medical Sciences and Research Center, Tumkur, India.*
[3]*Senior Resident, Department of Obstetrics and Gynaecology, Basaveshwara medical College Chitradurga, India.*
[4]*Post Graduate Student, Department of Obstetrics and Gynaecology, Basaveshwara Medical College and Hospital, Chitradurga, India.*

Received *: 17/09/2025*
Received in revised form *: 05/11/2025*
Accepted *: 24/11/2025*

Corresponding Author:
Dr. Sowmya. S,
1Associate Professor. Department of Obstetrics and Gynaecology. Basaveshwara medical College Chitradurga, India.
Email: poojaleena1995@gmail.com

DOI: 10.70034/ijmedph.2025.4.465

Source of Support: Nil,
Conflict of Interest: None declared

Int J Med Pub Health
2025; 15 (4); 2583-2588

ABSTRACT

Background: Anemia in pregnancy is a significant public health concern, particularly in low-resource settings. It can lead to severe maternal and neonatal complications, including low birth weight, preterm delivery, and increased maternal morbidity. This study aimed to evaluate the effectiveness of weekly versus daily iron supplementation in anemic pregnant women. **Objective:** To evaluate the efficacy and tolerability of weekly versus daily parenteral iron supplementation in anemic pregnant women at Basaveshwara Medical College, Chitradurga.

Materials and Methods: A prospective, comparative study was conducted among 100 anemic pregnant women with hemoglobin levels below 10 g/dL Participants were divided into two groups: Group 1 received 100 mg of iron sucrose intravenously daily, and Group 2 received 200 mg of iron sucrose intravenously weekly. Hemoglobin levels, serum ferritin, and other hematological parameters were measured at baseline, 30, 60, and 90 days post-intervention. **Results:** Both treatment regimens significantly increased hemoglobin levels. Group 1 demonstrated a mean hemoglobin increase of 2.67 g/dL, while Group 2 showed a mean increase of 2.43 g/dL. Serum ferritin levels improved by 253% in Group 1 and 223% in Group 2. The incidence of adverse effects was slightly higher in the daily iron sucrose group, including nausea and abdominal discomfort.

Conclusion: Participants receiving 100 mg daily showed a greater mean increase in hemoglobin (2.76 g/dL vs. 2.31 g/dL), a more substantial rise in serum ferritin levels (26.5 ng/mL vs. 12.0 ng/mL), and a more pronounced decrease in Total Iron Binding Capacity (TIBC), reflecting improved iron utilization.

Keywords: Anemia, Pregnancy, Iron supplementation, Intravenous iron, Hemoglobin, Serum ferritin.

INTRODUCTION

Acute anaemia may arise with abrupt blood loss or haemorrhage, necessitating a blood transfusion to restore blood volume. Anaemia can develop in persons from any demographic, however it disproportionately impacts women and children worldwide, primarily as a result of nutritional deficiencies.

Anemia during pregnancy is diagnosed if a woman's hemoglobin (Hb) concentration at sea level is lower than 11 g/dL, although it is recognised that during the second trimester of pregnancy, Hb concentrations diminish by approximately 0.5 g/L.[1]

Iron deficiency during pregnancy is due to iron deficit intake of diet that could not meet the increased iron demand for the developing fetus.[4] Regulation of iron is a highly sophisticated phenomenon where its imbalance could result into significant morbidity and mortality. The disturbed intricate balance during iron regulation may either result in iron deficiency or iron overload, out of which iron deficiency is most commonly observed.[2]

The most common strategy for the management of this staggering situation is to start oral iron

supplementation during pregnancy. Iron consumption for pregnant women is undesirable, because of the side effects. The probable cause is the effect of oxidative stress of high doses of Iron, which leads to gastrointestinal intolerance.[5,3]

Exposing intestinal cells to supplemental iron less frequently, (e.g. every week in synchrony with the human mucosal turnover that occurs every five to six days) may improve the efficiency of absorption since the mucosal cells are not ―blocked‖ by large amounts of iron as may occur with daily iron intake.[4]

Significant equality and reduced side effects have been reported in several epidemiological studies in comparing the weekly prescription of iron with daily supplementation.[3]

Thus, weekly rather than daily administration of iron has been proposed as a safe, beneficent, and cost-effective method to prevent and alleviate anemia in pregnant women.[5]

MATERIALS AND METHODS

This Prospective compartive study was conducted among pregnant women who was admitted to our department of obstetrics Basaveshwara Medical College, Hospital and research centre (BMCH) with anaemia. During the period of May 1, 2023 to November 1st 2024 was considered.

Sample size estimation

Sample size- 100

The sample size is calculated by using the following formula n = Z2×p×q/d2

p = considering a prevalence of = 9%

q = (1-p) = 100-9 = 91%

d = percentage of error = 10%

n = (1.96×1.96×0.09×0.91) ÷ 0.1×0.1

n = 31.467 ~ for the statistical convenience, this study will include 100 anemic women.

Inclusion Criteria

1. Antenatal women with hemoglobin level < 10 gm/dl
2. Patients giving informed, written consent.

Exclusion Criteria

1. History of chronic renal disease
2. History of chronic liver disease
3. Chronic peptic ulcer, Bleeding piles, Known Thalassamia and other hemoglobinopathies
4. Pregnant women who showed adverse reaction to previous parentral iron infusion.

Methodology

A prospective study was done on 100 antenatal anemic women admitted in Basaveshwara Medical College and Hospital Chitradurga, over a period of 18 Months from may 2023 to November 2024.

The study was done at the department of obstetrics and gynaecology at Basaveshwara Medical College and Hospital Chitradurga. Informed consent for the study was obtained from all patients in writing. History was taken in detail and patients was subjected to detailed general physical and obstetric examination. The collected data was analysed using appropriate statistical methods. Red cell indices, peripheral blood smear and detailed serum iron studies was conducted. Baseline investigations including liver and kidney function tests, urine (routine microscopy and culture sensitivity), stool examination (for ova and cyst) were done. All women were given antihelmenthic therapy with tablet albendazole 400 mg once daily for three days. Folic acid tablets were given to all women during therapy.

The formula used for calculation of iron sucrose dose was as follows:

Required iron dose (mg) = (2.4 × (target Hb-actual Hb) × pre-pregnancy weight (kg)) + 1000 mg for replenishment of stores

The required iron dose varied depending upon index Hb level and pre-pregnancy weight. Average dose requirement was 1777 ± 168.5 mg (1400-2160 mg). Mean duration to complete total therapy was 4.5 ± 1.0 (3.5-5.5 wk).

Group 1: Iron sucrose was given in a dose of 100 mg intravenously daily in 100 ml normal saline over a period of 15-20 min. First dose was given in the ward where equipment for cardiopulmonary resuscitation was available. The following doses were given on outpatient

basis. Patients were observed for side effects or anaphylactic reactions. Any minor or major side effects were documented. All parameters were repeated at 2 weeks interval till 8 weeks.

Group 2: Iron sucrose injection was given in a dose of 200 mg intravenously weekly in 100 ml normal saline over a period of 15-20 min. First dose was given in the ward where equipment for cardiopulmonary resuscitation was available. The following doses were given on outpatient basis. Patients were observed for side effects or anaphylactic reactions. Any minor or major side effects were documented. All parameters were repeated at 1-week interval till 4 week.

Statistical Analysis: Analysis of data will be done by SPSS (statistical program for social science version 20) as follows: Descriptive data of quantitative parametric variables are expressed as mean, ± SD and range Description of non-parametric variables as number and percentage Chisquare test was used to compare non parametric variables between the two groups. Fisher exact test was used instead of chi-square test when one expected cell or more less than 5. Unpaired t-test was used to compare parametric variables, in parametric data between the two groups. Paired t-test was used to compare quantities variables in the same group before and after treatment.

RESULTS

The maternal age distribution across both treatment groups (Iron Sucrose 100 mg and 200 mg) remained fairly similar, with mean ages of 24.5 and 25.0 years, respectively. The standard deviations indicate that the sample was relatively homogenous in age. The

consistency in age distribution suggests that baseline characteristics were well-matched between groups, ensuring comparability.

A significant proportion of participants (60%) were unbooked, meaning they lacked prior antenatal care, while only 40% had booked status. This could imply a healthcare access issue, particularly in underserved regions. Lack of antenatal booking may contribute to late detection of anemia, poor maternal nutrition management, and inadequate prenatal interventions, potentially leading to worse maternal and neonatal outcomes.

A majority (65%) of participants were multigravida, indicating previous pregnancies. This is significant because repeated pregnancies can increase the risk of anemia due to cumulative iron depletion over successive gestations. Primigravida participants accounted for 35%, suggesting a mix of first-time and experienced mothers in the study cohort. Multigravida women often have greater nutritional demands and potential previous complications, which may influence iron therapy outcomes.

The presence of pallor (70%) was the dominant physical finding, reinforcing the widespread prevalence of anemia in the study group. The remaining 30% showed pallor combined with edema, which could indicate severe anemia or secondary nutritional deficiencies. This finding underscores the need for early screening and intervention strategies.

The study cohort was predominantly from middle socio-economic backgrounds (70%), with lower (20%) and upper (10%) economic classes comprising smaller portions. Socio- economic status plays a crucial role in dietary habits, healthcare accessibility, and compliance with supplementation, all of which significantly impact iron levels and anemia prevalence. The higher proportion of middle-class participants suggests they have some healthcare accessibility, yet may still face barriers to optimal anemia management.

Table 1: Descriptive Statistics for Gestational Age at Delivery (Weeks)

Group	N	Mean	Median	SD	SE	Minimum	Maximum
Iron sucrose 100 mg	50	38.2	38.0	1.5	0.21	36	41
Iron sucrose 200 mg	50	38.5	39.0	1.4	0.2	36	41

The mean gestational ages in both treatment groups were similar (38.2 vs. 38.5 weeks), showing that iron therapy did not significantly alter pregnancy duration. The consistent gestational age distribution suggests that iron sucrose supplementation did not increase preterm birth risk, a key concern in anemia management.

There was a slight increase in birth weight in the 200 mg group (2.8 kg vs. 2.7 kg in the 100 mg group). While this difference is small, it may suggest better iron availability improving fetal growth. The impact of maternal iron therapy on fetal birth weight is well-documented, as iron sufficiency supports adequate oxygen transport and fetal metabolism.

Baseline hemoglobin levels were similar between groups (8.1 g/dL vs. 8.2 g/dL), confirming that anemia severity was comparable before treatment. This ensures fairness in evaluating post-treatment effects without bias.

Table 2: Descriptive Statistics for Serum Ferritin (Pre-treatment)

Group	N	Mean	Median	SD	SE	Minimum	Maximum
Iron sucrose 100 mg	50	25.0	24.5	5.5	0.79	15	35
Iron sucrose 200 mg	50	24.0	23.8	6.0	0.84	12	36

Serum ferritin levels were slightly different pre-treatment, indicating variations in iron stores before therapy. Ferritin is a crucial marker reflecting iron reserves, and the similarity between groups ensures a balanced comparison in treatment efficacy.

Table 3: Descriptive Statistics for TIBC (Pre-treatment)

Group	N	Mean	Median	SD	SE	Minimum	Maximum
Iron sucrose 100 mg	50	350.0	349.5	15.0	2.14	320	375
Iron sucrose 200 mg	50	348.0	347.0	16.0	2.24	310	380

Elevated total iron-binding capacity (TIBC) values (350 vs. 348 µg/dL) confirm iron deficiency in both groups. High TIBC suggests an increased demand for circulating iron, reinforcing the necessity for iron therapy.

Table 4: Descriptive Statistics for Doses Given

Group	N	Mean	Median	SD	SE	Minimum	Maximum
Iron sucrose 100 mg	50	6.0	6.0	1.0	0.14	4	8
Iron sucrose 200 mg	50	5.0	5.0	1.0	0.14	4	7

The 100 mg group required a higher number of doses (6 doses vs. 5 doses in the 200 mg group). This aligns with the expectation that lower-dosage regimens need more frequent administration to achieve comparable iron replenishment.

Post-treatment hemoglobin levels showed significant improvement in both groups. The increase was greater in the 100 mg group (11.0 g/dL) compared to the 200 mg group (10.4 g/dL), suggesting better hemoglobin response despite requiring more doses. This could imply that lower doses administered more frequently may enhance iron absorption efficiency.

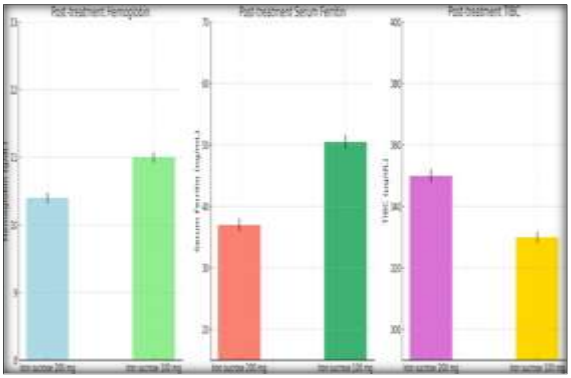

Figure 1: Descriptive Statistics for Repeat Hemoglobin (Post-treatment)

Table 5: Descriptive Statistics for Repeat Serum Ferritin (Post-treatment)

Group	N	Mean	Median	SD	SE	Minimum	Maximum
Iron sucrose 200 mg	50	37.0	36.5	7.5	1.07	20	50
Iron sucrose 100 mg	50	50.5	50.0	8.0	1.12	35	65

Ferritin levels showed significant increases post-treatment, particularly in the 100 mg group (50.5 µg/L vs. 37.0 µg/L in the 200 mg group). The larger increase suggests enhanced iron storage with smaller, more frequent doses.

Table 6: Descriptive Statistics for Repeat TIBC (Post-treatment)

Group	N	Mean	Median	SD	SE	Minimum	Maximum
Iron sucrose 200 mg	50	349.9	349.0	15.0	2.14	310	375
Iron sucrose 100 mg	50	330.0	328.0	13.6	1.9	295	360

TIBC values declined in the 100 mg group (330 µg/dL vs. 349.9 µg/dL in the 200 mg group), suggesting better iron utilization post-treatment. A reduction in TIBC indicates improved iron saturation.

The increase in hemoglobin post-treatment was greater in the 100 mg group (2.76 g/dL vs. 2.31 g/dL in the 200 mg group). This significant improvement suggests better treatment efficacy with more frequent administration of smaller iron doses.

Table 7: Descriptive Statistics for Change in Serum Ferritin

Group	N	Mean	Median	SD	SE	Minimum	Maximum
Iron sucrose 200 mg	50	12.0	12.8	13.6	1.95	-10	40
Iron sucrose 100 mg	50	26.5	27.8	12.0	1.68	5	55

Serum ferritin improved markedly in the 100 mg group (+26.5 µg/L vs. +12.0 µg/L in the 200 mg group), confirming better iron storage replenishment with smaller doses.

Table 8: Descriptive Statistics for Change in TIBC

Group	N	Mean	Median	SD	SE	Minimum	Maximum
Iron sucrose 100 mg	50	-18.6	-16.3	13.6	1.9	-45	10
Iron sucrose 200 mg	50	0.137	-0.1	14.8	2.12	-30	35

A marked decrease in TIBC was observed in the 100 mg group (-18.6 µg/dL vs. 0.137 µg/dL in the 200 mg group), further supporting efficient iron utilization.

A significant difference ($p < 0.001$, $t = 4.49$, $df = 98$) was observed between groups, indicating a greater hemoglobin increase in the 100 mg iron sucrose group.

The 100 mg group showed a significant reduction ($p < 0.001$, $t = 6.61$) in TIBC, reinforcing its superior iron replenishment.

A significant difference ($p < 0.001$, $t = -5.62$) was observed, confirming better ferritin improvement in the 100 mg group.

ANCOVA results adjusting for doses given show that treatment had a significant effect ($p < 0.001$, $\eta^2 = 0.314$) on hemoglobin levels, further demonstrating the efficacy of iron sucrose 100 mg therapy.

DISCUSSION

Despite the widespread use of intravenous iron therapy, the optimal dosing strategy remains a subject of debate. While higher single doses are convenient, lower doses administered more frequently may enhance iron absorption and utilization. This study was designed to compare the efficacy of two different dosing regimens of iron sucrose—100 mg given in more frequent sessions versus 200 mg given less frequently—in improving hematological parameters among pregnant women with moderate anemia.

The following discussion interprets and contextualizes the results of the present study, examining their implications in light of previous research findings. The focus lies in evaluating maternal and neonatal outcomes, treatment effectiveness, and practical applicability of each regimen in real-world settings, especially considering socioeconomic and healthcare accessibility factors.

The maternal age distribution between the two groups receiving 100 mg and 200 mg iron sucrose therapy was comparable, with mean ages of 24.5 and 25.0 years respectively. This similarity indicates effective randomization, minimizing the risk of age as a confounding variable. A narrow standard deviation further suggests age homogeneity across the groups. Previous studies have noted that maternal age can influence the prevalence and severity of anemia during pregnancy; however, in our study, the effect was neutralized due to balanced distribution.[6]

Our data showed that 60% of participants were unbooked, suggesting limited access or late initiation of antenatal care. This aligns with reports from rural and underserved regions in India, where unbooked status correlates with higher maternal morbidity, including anemia.[68] Unbooked women often miss early screening and interventions, leading to more severe presentations of iron deficiency anemia (IDA).

A majority (65%) of participants were multigravida, which is significant because multiple pregnancies increase the risk of IDA due to cumulative iron depletion. Studies such as those by Tonge et al. and Chavhan et al. have noted similar trends and emphasize the importance of tailored iron therapy for multigravida women.[7,8]

Physical signs of anemia, particularly pallor, were present in 70% of participants, with 30% showing pallor with edema. Edema in conjunction with pallor may indicate more severe anemia or comorbid nutritional deficiencies, necessitating comprehensive management strategies. This clinical profile supports the findings of Singh et al., who highlighted the correlation between visible signs and anemia severity.[9]

The distribution showed 70% of participants belonged to the middle socioeconomic class, 20% to lower, and 10% to upper. Socioeconomic status significantly influences dietary iron intake, healthcare accessibility, and adherence to treatment. Similar socioeconomic stratification has been associated with anemia burden in several Indian cohorts.[10]

Mean gestational age at delivery was similar in both groups (38.2 and 38.5 weeks), indicating that the iron therapy, regardless of dosage, did not influence the timing of delivery. This finding aligns with global research indicating iron supplementation does not increase the risk of preterm labor.[11]

A slight increase in birth weight was observed in the 200 mg group (2.8 kg) compared to the 100 mg group (2.7 kg). While the difference was minimal, improved maternal iron status has been linked to better fetal growth and higher birth weights. Zhao et al. similarly found a positive correlation between maternal iron supplementation and birth weight.[12]

Baseline hemoglobin levels and serum ferritin were nearly identical across groups, confirming that anemia severity was comparable at the study's start. This strengthens the validity of post-treatment comparisons. Elevated TIBC in both groups reaffirmed the diagnosis of IDA. Previous studies such as those by Papaniya et al. confirm TIBC as a reliable marker in IDA diagnosis.[13]

The 100 mg group received a higher number of doses (mean of 6) compared to the 200 mg group (mean of 5), as expected due to the lower dose per session. However, this more frequent administration might contribute to better iron absorption and utilization, as also discussed by Parikh and Agarwal in their comparative trials.[14]

Post-treatment hemoglobin increased to 11.0 g/dL in the 100 mg group compared to 10.4 g/dL in the 200 mg group. Serum ferritin also improved more in the 100 mg group (50.5 vs 37.0 µg/L). Additionally, TIBC decreased more significantly in the 100 mg group, indicating superior iron utilization. These findings mirror results from trials comparing ferric carboxymaltose and iron sucrose in similar populations.[15]

Independent samples t-tests showed statistically significant improvements ($p < 0.001$) in hemoglobin, serum ferritin, and TIBC in the 100 mg group compared to the 200 mg group. ANCOVA analysis, adjusting for number of doses, reaffirmed the 100 mg group's superiority in improving hemoglobin levels, with a large effect size (partial eta squared = 0.314). These findings are consistent with previous controlled trials that emphasize efficacy with more frequent, smaller doses.[16,17]

The greater efficacy of 100 mg iron sucrose administered in more frequent doses suggests a potential strategy for optimizing iron therapy, particularly in resource-limited settings where compliance with high-dose therapy may be challenging. Dakhle et al. and Hegde et al. emphasized that tailoring dose frequency could maximize both compliance and hematological outcomes.[18,19]

This study had some limitations, including a relatively small sample size and lack of long- term follow-up. The open-label design may have introduced performance bias. Nevertheless, the

rigorous statistical analysis and baseline homogeneity strengthen the reliability of our findings. Future research should explore cost-benefit ratios and patient satisfaction with varying iron dosing strategies

The results of this study demonstrate that intravenous iron sucrose therapy, particularly the 100 mg regimen administered in more frequent doses, yields superior outcomes in hemoglobin improvement, serum ferritin replenishment, and TIBC reduction compared to the 200 mg regimen. This dosing strategy may offer a more effective approach for managing moderate anemia in pregnancy without increasing preterm delivery risk or compromising neonatal outcomes.

CONCLUSION

In this comparative study assessing the efficacy of intravenous iron sucrose in the treatment of iron deficiency anemia during pregnancy, two dosing regimens—100 mg administered daily and 200 mg administered weekly—were evaluated. The findings clearly demonstrate that the daily 100 mg iron sucrose regimen led to significantly better hematological outcomes compared to the weekly 200 mg regimen. Participants receiving 100 mg daily showed a greater mean increase in hemoglobin (2.76 g/dL vs. 2.31 g/dL), a more substantial rise in serum ferritin levels (26.5 ng/mL vs. 12.0 ng/mL), and a more pronounced decrease in Total Iron Binding Capacity (TIBC), reflecting improved iron utilization. These differences were statistically significant, supported by independent samples t-tests and ANCOVA analysis even after adjusting for the number of doses administered. Both groups were comparable at baseline in terms of maternal age, obstetric history, and general health indicators, and no major differences were observed in birth outcomes such as gestational age at delivery or neonatal birth weight, suggesting that both regimens are safe. However, the daily 100 mg regimen proved more effective in correcting anemia and replenishing iron stores within the study period. Thus, it can be concluded that daily administration of 100 mg iron sucrose offers superior therapeutic benefits over weekly 200 mg dosing and should be considered the preferred treatment approach for iron deficiency anemia in pregnancy when aiming for rapid and efficient hematological improvement.

REFERENCES

1. World Health Organization(WHO), (2011): The global prevalence of anemia in 2011. Geneva: World Health Organization. Cochrane Database Syst Rev.,110.1002/14651858.CD009997. pub2.
2. Zimmermann MB and Hurrell RF, (2007):Nutritional iron deficiency. Lancet 370,511-520.
3. Schaefer RM, Huch R, Krafft A and Rev Med suisse, (2007): Current recommendations for the treatment of iron deficiency anemia.;3:874-880, 3(105):874-80.
4. Anderson GJ, Frazer DM, McKie AT, Vulpe CD, Smith A. Mechanisms of haem and non- haem iron absorption: lessons from inherited disorders of iron metabolism. Biometals. 2005; 18(4):339-48.
5. Aslinia F, Mazza JJ, Yale SH. Megaloblastic anemia and other causes of macrocytosis. Clin Med Res. 2006;4(3):236-41.
6. Tonge G, Dasila PS, Pote T. Oral versus intravenous iron therapy among pregnant women with iron deficiency anaemia: a comparative study. Int J Reprod Contracept Obstet Gynecol. 2023;12(5):1384–1389.
7. Chavhan SS, Bansode-Gokhe SS. IV vs oral iron in anemia of pregnancy. Int J Res Med Sci. 2023;11(5):1345–1349.
8. Neogi SB, et al. Intravenous vs oral iron in moderate-to-severe pregnancy anemia. Indian J Med Res. 2017;146(5):638–646.
9. Singh A, et al. Clinical profile of anemia in pregnancy. Int J Reprod Contracept Obstet Gynecol. 2019;8(6):2221–2225.
10. NFHS-5 India Fact Sheet 2021. Ministry of Health and Family Welfare, Govt of India.
11. De-Regil LM, et al. Intermittent iron supplementation for improving pregnancy outcomes. Cochrane Database Syst Rev. 2012;(7):CD009032.
12. Zhao G, et al. Prenatal iron supplementation in rural China. J Nutr. 2015;145(8):1916–1923.
13. Papaniya TD, et al. Ferric carboxymaltose vs iron sucrose in pregnancy anemia. Int J Reprod Contracept Obstet Gynecol. 2023;12(6):1844–1848.
14. Parikh A, Agarwal S. IV iron in pregnancy: Ferric carboxymaltose vs iron sucrose. Indian J Obstet Gynecol Res. 2022;9(1):10–14.
15. Chauhan A, et al. Ferric carboxymaltose vs iron sucrose in pregnancy anemia. J Obstet Gynaecol India. 2023;73(1):45–50.
16. Vijan TS, et al. Iron sucrose vs ferric carboxymaltose in postpartum anemia. Int J Reprod Contracept Obstet Gynecol. 2022;11(5):1384–1389.
17. Karwasara V, et al. IV iron in postpartum women. Asian J Pharm Clin Res. 2023;16(7):187– 190.
18. Dakhle GN, et al. IV iron comparison for postpartum anemia. Int J Reprod Contracept Obstet Gynecol. 2021;10(12):4450–4455.
19. H Sunita T, et al. Iron therapy comparison in antenatal women. Indian J Obstet Gynecol Res. 2021;8(4):456–460.