

Iron deficiency state prediction in childbearing-age women based on routine laboratory tools: A uni-centre study

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ABSTRACT

Background: Iron deficiency anaemia is highly prevalent globally, especially among women of childbearing age. **Aim:** This retrospective study analysed haematological data of 289 women aged 18-45 years to evaluate the utility of routine laboratory parameters in predicting iron deficiency without advanced iron markers.

Methods: Haemoglobin, haematocrit, red blood cell indices, platelet count, serum iron, total iron binding capacity (TIBC), transferrin saturation and serum ferritin were evaluated.

Results: Compared to reference ranges, haemoglobin, haematocrit, serum ferritin and transferrin saturation were markedly reduced, clearly indicating iron deficiency anaemia. Although within normal limits, red blood cell count, mean corpuscular volume, mean corpuscular haemoglobin and serum iron approached lower thresholds, suggesting subtle deficiency. Other indices were unaffected. Declining haemoglobin, haematocrit and subtle red cell changes identified evolving iron restricted erythropoiesis prior to advanced iron depletion. **Conclusion:** These inexpensive, widely available blood count tests may facilitate screening and early treatment of iron deficiency in childbearing age women, especially important in resource-limited settings. Further research should evaluate these potential markers longitudinally through stages of sufficiency to deficiency.

Keywords: iron deficiency anaemia, childbearing age women, haemoglobin, haematocrit, red blood cell indices

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