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**Abstract**

**Introduction**

Iron deficiency anemia (IDA) is the most prevalent nutritional deficiency disorder in pregnant women. During pregnancy, placental transport protein Divalent metal transporter1 (DMT1) plays a crucial role in transit of iron across placenta. The developing fetus is observed to be immune to anemia despite presence of anemia in the mother. Hence, we planned the present study to explore the effect of maternal IDA on the expression of DMT1 in the placenta.

**Materials and methods**

Two hundred pregnant women recruited, were divided into anemic and nonanemic groups based on their predelivery hemoglobin levels (<11 g/dL and ≥11 g/dL respectively). After delivery, placental expression of DMT1 was studied by immunohistochemistry and mRNA analysis and neonatal anthropometry was performed.

**Results**

Of the 200 women recruited, 58.8% were anemic with 60.35% having moderate anemia. Most of the red cell parameters were observed to be higher in cord blood than mothers. DMT1 protein immunohistochemical expression showed a statistically significant increase with increasing severity of anemia. Similarly, placental mRNA expression levels of DMT1 gene were observed to be higher in anemic mothers in comparison with nonanemic mothers.

**Conclusion**

Our study thus demonstrated a definite increase in expression of DMT1 at both protein and mRNA levels in term placenta, in maternal IDA.

**Keywords:**

* [Cord blood](https://www.tandfonline.com/keyword/Cord+blood)
* [DMT1](https://www.tandfonline.com/keyword/DMT1)
* [iron deficiency anemia](https://www.tandfonline.com/keyword/iron+deficiency+anemia)
* [m-RNA](https://www.tandfonline.com/keyword/m-RNA)
* [pregnancy](https://www.tandfonline.com/keyword/pregnancy)