

## **ABSTRACT**

### **Title: A STUDY ON INFLUENCE OF IRON DEFICIENCY ANAEMIA OVER HBA1C LEVELS**

**Background:** Iron deficiency anemia is the commonest nutritional anemia worldwide. HbA1c, which is a valuable tool in monitoring the glycemic control, has been recently recommended for diagnosing diabetes. HbA1c can be affected by other non glyceimic parameters like hemoglobin variants, anemia, uremia, pregnancy and acute blood loss. Reports on the effects of iron deficiency anemia on HbA1c levels were inconsistent.

**Aim:** This study aims to study the levels of HbA1c in iron deficiency anemia patients and to study the changes in HbA1c levels after correction of anemia.

**Methods:** 120 patients confirmed to have iron deficiency were enrolled in this study. Complete blood count, anemia profile including serum ferritin and HbA1c levels were measured at baseline and after treatment of anemia. These values were compared with those in the control population.

**Results:** The mean HbA1c level in iron deficiency anemia patients ( $4.619 \pm 0.308\%$ ) was significantly lower than control group ( $5.446 \pm 0.281\%$ ). A significant increase ( $5.816 \pm 0.323\%$ ) was observed in the mean HbA1c of anemia group after treatment.

**Conclusions:** Our study showed that HbA1c levels were affected by iron deficiency anemia. The HbA1c levels are lower in iron deficiency anemia patients and it increases after treatment with iron supplements. So iron deficiency anemia has to be kept in mind before using the HbA1c to diagnose diabetes.

**Keywords:** Iron deficiency anemia, HbA1c, ferritin.