

## **Evaluation of the effectiveness of vitamin D supplementation on glycemic control in type 2 diabetic patients with vitamin D Deficiency.**

### **Abstract**

**Introduction:** Diabetes mellitus is one of the major causes of morbidity and mortality in worldwide and results of some studies have shown that vitamin D deficiency is associated with increased risk of diabetes type 1. 1,25- Dihydroxy vit D in addition to the regulation of calcium homeostasis, increased production and secretion of several hormones, including insulin as well. As a result, it seems logical that glycemic control and insulin resistance improved when vitamin D deficiency modified and calcium is also adequate. this study we evaluate the effectiveness of vitamin D supplementation on glycemic control in type 2 diabetic patients with vitamin D Deficiency.

**Materials and methods:** This study has been done on 31 patients with type 2 diabetes and vitamin D deficiency. The blood samples were collected for analysis of FBS levels, HbA1c, blood pressure, calcium and vitamin D levels and BMI was calculated. 4 capsule of vitamin D (contain 50000 IU vit D) for 4 weeks and 2 of them for 2 months was administered. After 3 months, the amounts in these patients were measured again. Finally, all data were statistically analyzed.

**Results:** In this study there was a significant difference between the level of HbA1c, before and after supplementation of vitamin D ( $P = 0.002$ ), although there was no significant difference between the level of FBS before and after supplementation ( $P = 0.901$ ). The difference were observed between vitamin D levels in blood and blood calcium levels, before and after supplementation (respectively:  $P = 0.001$  and  $P = 0.005$ ).

**Conclusion:** The results of this study showed that during the study due to treatment in terms of diet, physical activity and medications did not change, treatment with vitamin D supplementation improves glycemic control and reduced HbA1c in patients with type 2 diabetes and vitamin D Deficiency

**Keywords:** vitamin D, diabetes mellitus type2, Glycemic control.