

CHAPTER 32

MEDICAL SCIENCES COMMUNITY MEDICINE

Doctoral Theses

01. MANGLA(Vipra)
Epidemiological Study on Vitamin D Status and Effect of its Supplementation on Glycaemic Control and Insulin Resistance in Type 2 Diabetes Mellitus Patients Attending a Tertiary Care Hospital of Delhi.
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Abstract
(Not Verified)

Introduction: The role of vitamin D on glycaemic control and insulin resistance in type 2 diabetes mellitus patients is not clear and there is paucity of Indian studies on this aspect. **Objectives:**(1) To assess vitamin D status in patients with type 2 diabetes mellitus and study its association with socio-economic and demographic characteristics. (2) To study effect of vitamin D supplementation on glycaemic control and insulin resistance in subjects with vitamin D deficiency. **Material and Methods:** This was a quasi-experimental study conducted in diabetes OPD clinic of LokNayak Hospital, New Delhi from Aug 2016 to July 2019 in type 2 diabetes subjects aged >18 years with HbA1c>7. Baseline data was collected using semi-structured questionnaire, clinical examination and blood tests. Subjects detected to have vitamin D deficiency were given vitamin D supplementation. Follow up blood tests were conducted at 3 and 6 months post vitamin D supplementation. **Results:** Prevalence of vitamin D deficiency was 80.6% (95%CI : 73.6%-86.4%). Female gender and inadequate sunlight exposure were associated with vitamin D deficiency. Reduction in mean HbA1c, Fasting Plasma Glucose, Fasting Plasma Insulin and HOMA-IR at 3 months post Vitamin D supplementation from baseline was found to be 0.5, 6.7, 1.1 and 0.64 respectively and at 6 months from baseline was found to be 0.23, 5.63, 0.99 and 0.57 respectively. For every 1 point increase in vitamin D value, there was an average reduction in HbA1c value by 0.01 (p<0.0001) and in insulin resistance value by 0.012 (p<0.0001). **Conclusion:** There was favourable effect of vitamin D supplementation on reduction of HbA1c and insulin resistance in vitamin D deficient type 2 diabetes patients. It is recommended that type 2 diabetic patients should undergo routine vitamin D testing, especially in female diabetics. The patients should be advised adequate sunlight exposure and dietary intake of vitamin D.

Contents

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