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VITAMIN D STATUS AND BODY MASS INDEX IN TYPE 2 DIABETIC JORDANIAN PATIENTS

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Obesity is a risk factor for type 2 diabetes and low serum 25(OH) D. The relationship between vitamin D status and BMI in T2DM Jordanian patients was studied. The study was a matched case-control study on (55) diabetic cases and (55) controls. Serum levels of fasting plasma glucose, insulin, calcium, glycosylated haemoglobin, vitamin D and parathyroid hormone were determined, while body mass index, the homeostasis model assessment-insulin resistance, the homeostasis model assessment- β secretion and the quantitative insulin sensitivity check index were calculated. Mean serum vitamin D levels for diabetic patients and nondiabetic subjects were deficient status adjusted for age and sex. Mean BMI was in the overweight level 25–29.9 Kg/m² for both groups. There were significant differences ($p < 0.05$) in HOMA-IR between groups (6.1 ± 1.2 vs. 2.7 ± 1.2 , respectively) and both groups had higher than normal serum insulin and insulin indices. 62.5% of the overweight and obese diabetic patients in this study were either deficient or insufficient in vitamin D compared to 37.5% of them were sufficient. For the whole sample, significant correlations, although not high, were obtained between serum vitamin D and Ca ($r = 0.2$, $P < 0.05$) and PTH ($r = -0.4$, $P < 0.05$). For the diabetic subjects, the significant correlation was only with PTH ($r = -0.4$, $P < 0.05$). Whereas, for the non-diabetic subjects, serum insulin ($r = 0.4$, $P < 0.05$), HOMA-IR ($r = 0.4$, $P < 0.05$), HOMA- β ($r = 0.4$, $P < 0.05$), QUICKI ($r = -0.3$, $P < 0.05$) and PTH ($r = -0.4$, $P < 0.05$) were significantly correlated with serum vitamin D. Serum levels of vitamin D and calcium have significant inverse relationship with BMI in diabetic patients. Vitamin D deficiency seems to be a problem in different parts of Jordan. Incidence of vitamin D deficiency is high in diabetic and non-diabetic groups.

Biography

Fadwa Ghazi Abdullah Hammouh an Assistant Professor at the Nutrition and Dietetics Department/Faculty of Health Sciences at the American University of Madaba/Jordan and has completed her PhD from the University of Jordan.

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