

VITAMIN D STATUS AND ITS ASSOCIATION WITH FAT TISSUE AND ADIPOKINE CONCENTRATION IN REPRODUCTIVE AGE WOMEN

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ABSTRACT

Recent studies have suggested an association between obesity and low serum 25-hydroxyvitamin D (25(OH)D) level but the underlying mechanisms of this interlink are still unknown.

Design and Methods

We examined 460 healthy women of reproductive age resident in North-West Russia. Serum 25(OH)D was analyzed by chemiluminiscentic method. Adipokines and parathyroid hormone (iPTH) concentrations were measured by ELISA. The amount and distribution of fat was assessed by Dual-energy X-ray absorptiometry with software for «total body scan».

Results

Vitamin D deficiency was revealed in 61.3% of participants. Serum 25(OH)D level inversely correlated with body weight, waist circumference, body mass index and amount of fat. Women with vitamin D deficiency had higher risk of obesity compared to women with normal Vitamin D status (OR 2.25 [1.05-4.85]; CI95%). Both leptin and adiponectin levels correlated with fat amount. No association between serum 25(OH)D level and adipokines concentration was found.

Conclusions

Our study showed close association between vitamin D deficiency and obesity, both conditions being very common in reproductive age women residents of North-West Russia.

KEYWORDS: Adiponectin, Leptin, Obesity, Vitamin D Deficiency