

## **Vitamin D Status in Adults: A Cross Sectional Study**

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**Background:** High prevalence of hypovitaminosis D has been reported to be common in different regions of the Middle East.

**Objective:** The aim of this study is to examine vitamin D level in relation to age, sex, season, clothing and use of supplements among healthy adults.

**Design:** A cross-sectional study.

**Setting:** Blood Bank, Bahrain Defense Hospital.

**Method:** This study was performed from February 2011 to January 2012. Vitamin D level was assessed in 500 healthy Bahrainis (250 males and 250 females) aged 15-65 years with no history of major organ diseases or any other health problems. The prevalence of vitamin D deficiency and insufficiency was determined according to the ranges of 25-hydroxyvitamin D (25(OH)D) recommended by the Institute of Medicine, USA.

**Result:** The mean total serum of 25(OH)D was low ( $22.9 \pm 10.1$  nmol/L) and total serum of 25(OH)D concentrations in 49.4%, 37.0% and 13.6% of the participants were having <30.0 nmol/L (deficiency), between 30.0-50.0 nmol/L (insufficiency) and >50.0 nmol/L (optimal).

Vitamin D deficiency was significantly higher in females 169 (67.6%) than males 78 (31.2%),  $p < 0.0001$ . The prevalence of vitamin D deficiency among younger age group, <30 years, 139 (53%) was significantly higher than older age group, >30 years, 108 (45.4%),  $p < 0.001$ . Vitamin D deficiency was significantly higher during October to March 121 (69.2%) than April to September 41 (12.5%),  $p < 0.0001$ . In this study only 68 (13.6%) had optimal level of vitamin D suggesting an alarming vitamin D deficiency in Bahrainis.

**Conclusion:** This is the first population-based study in Bahrain that indicates vitamin D deficiency. It is recommended that fortification of food with vitamin D on a national basis is necessary to overcome such low levels of vitamin D in Bahrainis.

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