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Prevalence of Cardiovascular Disease in Vitamin D Deficiency in Israel: Data from a Large Health Maintenance Organization

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Background: Accumulating data in the past years suggests that vitamin D deficiency has an adverse effect on cardiovascular health and that its prevalence is significantly higher among patients with cardiovascular diseases and risk factors, contributing to the pathogenesis of CVD.

Methods: We have analyzed a relatively large database of a health care maintenance organization. Included were individuals 18 years and older for whom a vitamin D sample was obtained for any reason during the years 2001 and 2008. Odd ratio for physician entered CVD diagnoses were calculated using defined cut off concentrations of vitamin D.

Results: Included were 34,874 individuals, of whom 26,699 were females at a mean (SD) age of 55 (15) and 8175 males aged 55 (17). Vitamin D deficiency prevalence was similar to previous reports. Significant age adjusted odds ratios for CVD related diagnoses of the study population were found. These included the presence of hypertension, diabetes mellitus, dyslipidemia, obesity and peripheral vascular disease for females, and the presence of all the above except hypertension in males

Conclusion: Vitamin D deficiency is significantly prevalent among patients with cardiovascular disease and risk factors of both genders. The prevalence of Vitamin D deficiency in Israel is similar to the prevalence found in less sunny regions.