

ORIGINAL RESEARCH COMMUNICATION

# Vitamin D insufficiency<sup>1, 2, 3</sup> in southern Arizona

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**Background:** Vitamin D deficiency or insufficiency has been observed among populations in the northern United States. However, data on the prevalence of vitamin D deficiency in areas of high sun exposure, such as Arizona, are limited.

**Objective:** The purpose of this study was to analyze serum 25-hydroxyvitamin D [25(OH)D] concentrations in residents of southern Arizona and to evaluate predictors of 25(OH)D in this population.

**Design:** Cross-sectional analyses of serum from participants in a colorectal adenoma prevention study were conducted to determine rates of vitamin D deficiency. Participants were categorized into 4 groups on the basis of serum 25(OH)D concentrations: <10.0 ng/mL, ≥10.0 ng/mL and <20.0 ng/mL, ≥20.0 ng/mL and <30.0 ng/mL, and ≥30.0 ng/mL.

**Results:** The mean serum 25(OH)D concentration for the total population was 26.1 ± 9.1 ng/mL. Of 637 participants, 22.3% had 25(OH)D concentrations >30 ng/mL, 25.4% had concentrations <20 ng/mL, and 2.0% had concentrations <10 ng/mL. Blacks (55.5%) and Hispanics (37.6%) were more likely to have deficient 25(OH)D concentrations (<20 ng/mL) than were non-Hispanic whites (22.7%). Sun exposure had a greater effect on 25(OH)D in whites than in blacks and Hispanics, whereas BMI appeared to be more important in the latter groups.

**Conclusion:** Despite residing in a region with high chronic sun exposure, adults in southern Arizona are commonly deficient in vitamin D deficiency, particularly blacks and Hispanics.

**Key Words:** Vitamin D deficiency • race-ethnicity • 25-hydroxyvitamin D • 25(OH)D • Arizona

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