

Vitamin D Status and Supplementation in Employer-Sponsored Wellness Program

Background

- Vitamin D deficiency is common and has been linked to multiple health conditions, including musculoskeletal disorders, diabetes, cardiovascular disease, cancer, and cognitive impairment.^{1,2}
- Vitamin D testing can provide actionable information. For example, individuals with vitamin D deficiency can take supplements to improve vitamin D levels.
- Some employer-sponsored wellness programs test for vitamin D levels, and thus provide participants with the opportunity to act. However, the link between vitamin D testing and supplement use has not been well studied.
- **Objective:** As part of a Quest Diagnostics Health Trends™ study, investigators evaluated vitamin D status, self-reported supplement use, and the association of test results with subsequent supplement use among participants in employer-sponsored wellness programs.

Methods

- Quest Diagnostics provided vitamin D testing as part of 12 employer-sponsored wellness programs in 2014 and 2015.
- Vitamin D levels were determined by liquid-chromatography–tandem mass spectrometry or immunoassay.
- Levels were categorized as deficient (<20 ng/mL), suboptimal (20-29 ng/mL), optimal (30-100 ng/mL), or high (>100 ng/mL).
- Vitamin D supplement use was determined by questionnaire.

Results

- A total of 50,209 individuals (mean age: 44.7 years; 60.5% women; 44.9% non-Hispanic Caucasians) participated in the employer-sponsored wellness programs.
- Vitamin D levels were deficient in 28.6% of participants and suboptimal in 37.3% (based on the initial year a patient was tested).
- Of 28,709 individuals who responded to the questionnaire in both years, rates of vitamin D supplement use increased from 33.4% in 2014 to 41.8% in 2015.
- However, knowledge of vitamin D status did not necessarily lead to appropriate action (among participants who responded to the questionnaire both years).
 - Among patients who reported taking vitamin D supplements in 2014, 36% of those with deficient levels and 26% of those with suboptimal levels discontinued supplement use.
 - Among patients who reported not taking vitamin D supplements in 2014, only 25% of those with deficient or suboptimal levels began taking supplements.

Conclusions

- A large proportion of the working-age population tested in this study had deficient or suboptimal vitamin D levels.
- Many participants did not act appropriately based on vitamin D status. This finding suggests that employer-sponsored wellness programs have an opportunity to better educate participants.

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