VITAMIN D LEVEL: TO TEST OR NOT TO TEST?

Daniel Mundt, MD 1,2 (Contact: Daniel.Mundt@aah.org); Wajih Askar, MD 1,2; Kayla Heslin, MPH 1,2; Marianne Klumph, MA 1,2; Kern Reid, MD 1,2.

1Internal Medicine Residency, Aurora Health Care, Milwaukee, WI. 2Center for Urban Population Health, Milwaukee, WI; Aurora UW Medical Group, Aurora Sinai Medical Center, Milwaukee, WI.

BACKGROUND
• 10% of the US population has severe vitamin D deficiency, with highest prevalence in African Americans. 1
• Vitamin D deficiency is significantly higher among the urban-living population, obese patients, and in the Midwest. 2
• Multiple studies suggest that vitamin D deficiency may contribute to the pathophysiology of many diseases including cardiovascular disease, depression, and cancer. 3, 4
• There are limited guidelines regarding the frequency and indications for vitamin D level testing.

PURPOSE
• To assess the prevalence of vitamin D deficiency at “Aurora Sinai Medical Center Internal Medicine” clinic.
• To evaluate and define risk factors that might contribute to vitamin D deficiency in our clinic population.

METHODS
• The study population includes all adult patients (≥18 years old) who attended the clinic from January 2018 to December 2018.
• Retrospective analysis included: demographic information, past medical history consisting of various comorbidities
• Vitamin D levels ≥ 30ng/ml were considered normal, while levels < 30ng/ml were considered deficient.
• Basic descriptive statistics were used to describe the population, while Chi square tests and t-tests were used as appropriate to compare groups.

RESULTS
• Of the patient cohort (n=3,976), only 17.56% had vitamin D levels tested and 12% had a prior diagnosis of vitamin D deficiency. Of those tested, 68% were females, 72% were African Americans, with an average age of 59 years.
  - Women, patients with a history of bone fracture, alcohol use disorder, celiac disease, and chronic kidney disease (CKD) were more frequently tested (Table 1).
  - Although most patients tested had vitamin D deficiency (71%), our study did not show significance between low vitamin D levels and medical conditions known to cause vitamin D deficiency (table 2).
  - Of those with vitamin D deficiency who were re-tested, 52% had an increase in their vitamin D levels, and 40% of them became vitamin D sufficient.

CONCLUSIONS
• Although African Americans are generally known to have lower levels of vitamin D when compared to other races, we found they were not more likely to be tested, or to have vitamin D deficiency.
• This retrospective study did not show significance between common medical problems associated with the low vitamin D levels and vitamin D deficiency.
• The majority of patients who had a repeat follow-up with vitamin D test had an improvement in their level.

RECOMMENDATION
• The decision to test for vitamin D level should remain individualized.

REFERENCES