

## Just a note regarding cardiometabolic disease and vitamin D status (from the NHANES report 2001-2010, results published 2017):



Aunt Cathy

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This looks really interesting .... Not at all unexpected, based on lots of other investigations, but this key large research confirmation is very welcome.

**NHANES is the “Health and Nutrition Examination Survey”** that the CDC does every 10 years ... so, yes ... very reputable.

Total **sample size is 7674 people** and so the data is large enough to stratify folks by age and race and whatever they want.

The report **abstract** is below. The **whole article is also available** for more detail.

**Standardized serum 25-hydroxyvitamin D concentrations  
are inversely associated with cardiometabolic disease in U.S. adults:  
a cross-sectional analysis of NHANES, 2001–2010**

Al-khalidi et al.      Nutrition Journal (2017) 16:16

### **Background:**

Previously reported associations between vitamin D status, as measured by serum 25-hydroxyvitamin D [25(OH)D] concentrations, and cardiometabolic risk factors were largely limited by variability in 25(OH)D assay performance. In accordance with the Vitamin D Standardization Program, serum 25(OH)D measurement was recently standardized in the National Health and Nutrition Examination Survey (NHANES) to reduce laboratory and method related differences in serum 25(OH)D results. We evaluated the overall and ethnic-specific associations between the newly standardized serum 25(OH)D concentrations and cardiometabolic risk in U.S. adults.

## **Methods:**

This study examined standardized 25(OH)D data from five cycles of the NHANES (2001–2010). The total sample included 7674 participants (1794 Mexican-Americans, 4289 non-Hispanic whites, and 1591 non-Hispanic blacks) aged >20 years who were examined in the morning after overnight fasting.

**Serum 25(OH)D** was directly measured by liquid chromatography-tandem mass spectrometry (LC-MS/MS) in 2007–2010, and was predicted from LC-MS/MS equivalents for 2001–2006. Serum 25(OH)D levels were categorized into quartiles (<43.4, 43.4–58.6, 58.7–74.2, /span>74.3 nmol/L).

**Cardiometabolic risk** was defined by the homeostatic model assessment of insulin resistance (HOMA-IR), metabolic syndrome (MetS), and Framingham cardiovascular disease (CVD) risk. Prevalence ratios and 95% confidence intervals were calculated using modified Poisson regression.

## **Results:**

After full adjustment for confounders, serum 25(OH)D >74.3 nmol/L was associated with lower cardiometabolic risk compared to 25(OH)D <43.4 nmol/L in the overall sample. These associations remained significant in Mexican-Americans, non-Hispanic whites and in non-Hispanic blacks.

## **Conclusions:**

**Low vitamin D status is a significant risk factor for cardiometabolic disease in U.S. adults based on standardized serum 25(OH)D results, irrespective of ethnic background.**

Future studies using standardized 25(OH)D data are needed to confirm these results, particularly amongst U.S. blacks with 25(OH)D concentrations above 75 nmol/L.

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**CB Note: It is just one more really big reason to push for ALL people to have a 25-hydroxy vitamin D level checked at least once.**