



Vitamina D e mortalidade – *American Journal of Clinical Nutrition* – Abril 2013

Am J Clin Nutr. 2013 Apr;97(4):782-93.

## **Strong associations of 25-hydroxyvitamin D concentrations with all-cause, cardiovascular, cancer, and respiratory disease mortality in a large cohort study.**

Schöttker B *et al.*

### **Abstract**

#### **BACKGROUND:**

Serum 25-hydroxyvitamin D [25(OH)D] concentration has been linked to mortality in several studies, but appropriate cutoffs to define risk categories are under debate.

#### **OBJECTIVE:**

We aimed to conduct a repeated-measurements analysis on the association of serum 25(OH)D concentrations with all-cause and cause-specific mortality, with particular attention given to the shape of dose-response relations.

#### **DESIGN:**

Concentrations of 25(OH)D were measured in  $n = 9578$  baseline and  $n = 5469$  5-y follow-up participants of the ESTHER study, which is a German population-based cohort aged 50-74 y at baseline. Deaths were recorded during 9.5 y of follow-up (median). Restricted cubic splines were used to assess dose-response relations, and Cox regression with time-dependent variables was used to estimate hazard ratios.

#### **RESULTS:**

During follow-up, 1083 study participants died; of those, 350 individuals died of cardiovascular diseases, 433 individuals died of cancer, and 55 individuals died of respiratory diseases. **The overall mortality [HR (95% CI)] of subjects with vitamin D deficiency [25(OH)D concentrations <30 nmol/L] or vitamin D insufficiency [25(OH)D concentrations from 30 to 50 nmol/L] was significantly increased [1.71 (1.43, 2.03) and 1.17 (1.02, 1.35), respectively] compared with that of subjects with sufficient 25(OH)D concentrations (>50 nmol/L).** Vitamin D deficiency was also associated with increased cardiovascular mortality [1.39 (95% CI: 1.02, 1.89)], cancer mortality [1.42 (95% CI: 1.08, 1.88)] and respiratory disease mortality [2.50 (95% CI: 1.12, 5.56)]. The association of 25(OH)D concentrations with all-cause mortality proved to be a nonlinear inverse association with risk that started to increase at 25(OH)D concentrations <75 nmol/L.

#### **CONCLUSIONS:**

In this large cohort study, serum 25(OH)D concentrations were inversely associated with all-cause and cause-specific mortality. In particular, vitamin D deficiency [25(OH)D concentration <30 nmol/L] was strongly associated with mortality from all causes, cardiovascular diseases, cancer, and respiratory diseases.