

# Associations Between Vitamin D and Self-Reported Respiratory Disease in Older People from a Nationally Representative Population Survey

## *Objectives*

To investigate the association between serum 25-hydroxy vitamin D (25(OH)D) concentrations and respiratory diseases in older people.

## *Participants*

Two thousand seventy noninstitutionalized adults aged 65 and older taking part in the Health Survey for England 2005.

## *Measurements*

Serum 25(OH)D levels, self-reported long-term respiratory tract diseases, and covariates (age, sex, social class, season of examination, use of vitamin supplements, and physical health status).

## *Results*

Participants with severe deficiency (25(OH)D < 35 nmol/L) had more than **twice** the risk of **respiratory disease** than those in the highest quartile of 25(OH)D status (>64 nmol/L), and those with moderate deficiency (second quartile: 25(OH)D 35–48.9 nmol/L) had 1.75 times greater odds of respiratory diseases, even after adjustment with covariates. Adjusted analysis showed that those in the third quartile (25(OH)D 49.0 to 63.9 nmol/L) also had a greater risk of respiratory disease (odds ratio = 1.63, 95% confidence interval = 1.04–2.57).

## *Conclusion*

Low serum 25(OH)D concentrations are associated with respiratory disease. Ensuring adequate 25(OH)D levels is of public health importance for older populations living in northern latitudes and may be an effective way to prevent concurrent respiratory infections and related complications in older people. Further studies are required to investigate whether vitamin D supplementation may reduce the incidence and exacerbations of respiratory disease.

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