

Vitamin D may not provide protection from COVID-19 susceptibility or disease severity

Preliminary studies have suggested that increased vitamin D levels may protect against COVID-19. However, these studies were inconclusive and possibly confounded. A study published in *PLOS Medicine* by Brent Richards at McGill University in Quebec, Canada, and colleagues suggests that vitamin D is not an effective therapeutic or preventive treatment against COVID-19.

The ability of vitamin D to protect against severe COVID-19 illness is of great interest to public health experts, but has limited evidence. To assess the relationship between vitamin D levels and COVID-19 susceptibility and severity, researchers conducted a Mendelian randomization study using genetic variants strongly associated with increased vitamin D levels. The authors analyzed genetic variants of 4,134 individuals with COVID-19, and 1,284,876 without COVID-19, from 11 countries to determine whether genetic predisposition for higher vitamin D levels had a protective effect against severe disease outcomes in people with COVID-19.

The results showed no evidence for an association between genetically predicted vitamin D levels and COVID-19 susceptibility, hospitalization, or severe disease, suggesting that vitamin D supplementation in the general population may not improve COVID-19 outcomes. However, the study had several important limitations, including that the research did not include individuals with vitamin D deficiency, and it remains possible that truly deficient patients may benefit from supplementation for COVID-19 related protection and outcomes. Additionally, the genetic variant samples only came from individuals of European ancestry, so future studies will be needed to determine the effects on COVID-19 outcomes in other populations.

According to the authors, "Vitamin D supplementation as a public health measure to improve outcomes is not supported by this study. Most importantly, our results suggest that investment in other therapeutic or preventative avenues should be prioritized for COVID-19 randomized clinical trials".

###