

In a new large review of observational studies, an international team of researchers uncovered a reduction in the risk of premature death in association with the use of vitamin D3 supplements.

High Vitamin D levels are associated with a decreased risk of all-cause and specific mortality risk

Vitamin D supplementation is known to benefit conditions associated with the skeletal system such as rickets, fractures and falls, as well as a range of diseases including multiple sclerosis, autoimmune disorders, infections, cardiovascular diseases and certain cancers. Non-skeletal benefits of vitamin D supplementation are still currently being debated in many cases.

In a new meta-analysis published in the *British Medical Journal*, researchers analyzed the possible association between a higher blood level of vitamin D and a reduced risk of all-cause mortality. The review included 73 observational population studies that reported vitamin D serum levels and the cause of death among 849,412 men and women over a follow up period up to 29 years.

When comparing adults with the lowest one-third of vitamin D levels to those in the highest third, subjects had a 35% higher risk of mortality from cardiovascular disease or any cause over the follow-up period. Adults with the lowest levels also had a 30% greater risk of non-vascular, non-cancer death, and a 14% higher risk of death from cancer.

Evidence from these observational studies found significant inverse associations between serum vitamin D levels and risks of death from cardiovascular disease, lymphoma, upper digestive tract cancer, and respiratory diseases. In addition, when the form of vitamin D supplementation was taken into account, vitamin D3 significantly reduced all-cause mortality by 11%. Vitamin D2, on the other hand, did not appear to have any significant effect on mortality.

Researchers noted that further studies should be done to determine the optimal dose and duration of supplementation and to further confirm whether vitamin D3 affects the mortality risk differently than vitamin D2.

Rajiv Chowdhury et al. Vitamin D and risk of cause specific death: systematic review and meta-analysis of observational cohort and randomised intervention studies. *BMJ* 2014;348:g1903