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Vitamin D Deficiency in COVID-19 Quadrupled Death Rate

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Vitamin D deficiency on admission to hospital was associated with a 3.7-fold increase in the odds of dying from COVID-19, according to an observational study looking back at data from the first wave of the pandemic.

Nearly 60% of patients with COVID-19 were vitamin D deficient upon hospitalization, with men in the advanced stages of COVID-19 pneumonia showing the greatest deficit.

Importantly, the results were independent of comorbidities known to be affected by vitamin D deficiency, say the authors, led by Dieter De Smet, MD, from AZ Delta General Hospital, Roeselare, Belgium.

"[The findings] highlight the need for randomized controlled trials specifically targeting vitamin D–deficient patients at intake, and make a call for general avoidance of vitamin D deficiency as a safe and inexpensive possible mitigation of the SARS-CoV-2 pandemic," say De Smet and colleagues in their article, [published](#) online November 25 in the *American Journal of Clinical Pathology*.

A search of ClinicalTrials.gov [reveals](#) there are currently close to 40 ongoing intervention trials with vitamin D in COVID-19 around the world for varying purposes, including prevention, and varying forms of treatment.

Consider Vitamin D to Prevent COVID-19 Infection

With regard to the potential role in prevention, "Numerous observational studies have shown that low vitamin D levels are a major predictor for poor COVID outcomes," notes Jacob Teitelbaum, MD, an internist who specializes in treating chronic fatigue syndrome and fibromyalgia who also has an interest in COVID-19.

"This study shows how severe a problem this is," Teitelbaum told *Medscape Medical News*. "A 3.7-fold increase in death rate if someone's vitamin D level was below 20 [ng/mL] is staggering. It is arguably one of the most important risk factors to consider."

"What is not clear is whether vitamin D levels are acting as an acute-phase reactant, dropping because of the infection, with larger drops indicating more severe disease, or whether vitamin D deficiency is causing worse outcomes," added Teitelbaum, who is director of the Center for Effective CFIDS/Fibromyalgia Therapies, Kailua-Kona, Hawaii.

Also asked to comment, Andrea Giustina, MD, president of the European Society of Endocrinology, said: "The paper by De Smet et al confirms what we [already hypothesized](#) in *BMJ* last March: that patients with low vitamin D levels are at high risk of hospitalization for COVID-19 and developing severe and lethal disease."

"This is likely due to the loss in the protective action of vitamin D on the immune system and against the SARS-CoV-2-induced cytokine storm."

He said it is particularly interesting that the authors of the new study had reported more prevalent vitamin D deficiency among men than women, most likely because women are more often treated with vitamin D for osteoporosis.

The new study should prompt all clinicians and health authorities to seriously consider vitamin D supplementation as an additional tool in the fight against COVID-19, particularly for the prevention of infection in those at high risk of both COVID-19 and hypovitaminosis D, such the elderly, urged Giustina, of San Raffaele Vita-Salute University, Milan, Italy.

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1 2 < Next >

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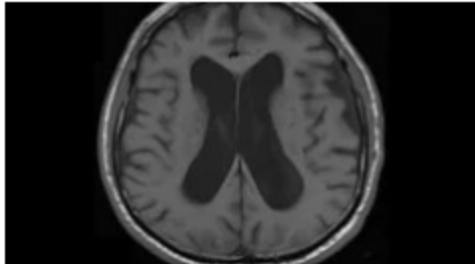
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