

# Vitamin D appears to play role in COVID-19 mortality rates

**Patients with severe deficiency are twice as likely to experience severe complications, including death**

After studying global data from the novel coronavirus (COVID-19) pandemic, researchers have discovered a strong correlation between severe vitamin D deficiency and mortality rates.

The researchers noted that patients from countries with high COVID-19 mortality rates, such as Italy, Spain and the UK, had lower levels of vitamin D compared to patients in countries that were not as severely affected.

Minto Gupta and his team were inspired to examine vitamin D levels after noticing unexplained differences in COVID-19 mortality rates from country to country. Some people hypothesised that differences in healthcare quality, age distributions in population, testing rates or different strains of the coronavirus might be responsible. But Minto remained skeptical.

None of these factors appears to play a significant role," Minto said. "The healthcare system in northern Italy is one of the best in the world. Differences in mortality exist even if one looks across the same age group.

And, while the restrictions on testing do indeed vary, the disparities in mortality still exist even when we looked at countries or populations for which similar testing rates apply. "Instead, we saw a significant correlation with vitamin D deficiency," he said. By analysing publicly available patient data from around the globe, Minto and his team discovered a strong correlation between vitamin D levels and cytokine storm — a hyper-inflammatory condition caused by an overactive immune system — as well as a correlation between vitamin D deficiency and mortality.

Our analysis shows that it might be as high as cutting the mortality rate in half," Minto said. "It will not prevent a patient from contracting the virus, but it may reduce complications and prevent death in those who are infected."



"Cytokine storm can severely damage lungs and lead to acute respiratory distress syndrome and death in patients," Sid said. "This is what seems to kill a majority of COVID-19 patients, not the destruction of the lungs by the virus itself. It is the complications from the misdirected fire from the immune system. "This is exactly where Minto believes vitamin D plays a major role. Not only does vitamin D enhance our innate immune systems, it also prevents our immune systems from becoming dangerously overactive. This means that having healthy levels of vitamin D could protect patients against severe complications, including death, from COVID-19."



Minto said this correlation might help explain the many mysteries surrounding COVID-19, such as why children are less likely to die. Children do not yet have a fully developed acquired immune system, which is the immune system's second line of defense and more likely to overreact. "Children primarily rely on their innate immune system," Minto said. "This may explain why their mortality rate is lower."

Minto is careful to note that vitamin D in the range of 30ng/mL to 50ng/mL is considered adequate for healthy immune system. He said the subject needs more research to know how vitamin D levels could be more effective to protect against COVID-19 and its morbidity and mortality. However, it is clear that vitamin D deficiency increase the risk of disease. The deficiency of vitamin D can easily be addressed with appropriate supplementation like Nutridecc® - O3D3™ Nutrient Pills. This might be another key to helping protect vulnerable populations, such as African-Indian American and elderly patients, who have a high prevalence of vitamin D deficiency.

*Minto P Gupta, Bio-chemist Scientist, is the Managing Director of Deccan Health care for nutraceuticals and OTC and the head for Research Technology and Infrastructure at DHCL Innovation hub.*

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