

Vitamin B6 may help keep COVID-19's cytokine storms at bay

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Who would have thought that a small basic compound like vitamin B6 in

bananas or fish could be key to a robust response against COVID-19?

Studies have so far explored the benefits of vitamins D and C and minerals like zinc and magnesium in fortifying [immune response](#) against COVID-19. But research on [vitamin](#) B6 has been mostly missing. Food scientist Thanutchaporn Kumrungsee hopes their paper published in *Frontiers in Nutrition* could be the first step in showing the potential of vitamin B6 in lowering the odds of cytokine storms.

"In addition to washing your hands, food and nutrition are among the first lines of defense against COVID-19 virus infection. Food is our first medicine and kitchen is our first pharmacy," Kumrungsee, an associate professor at Hiroshima University's Graduate School of Integrated Sciences for Life, said.

"Recently, many scientists have published papers regarding the role of diet and nutrients in the protection against COVID-19. However, very few scientists are paying attention to the important role of vitamin B6," she added.

In their paper, she and her fellow researchers pointed out growing evidence showing that vitamin B6 exerts a protective effect against chronic illnesses such as cardiovascular diseases and diabetes by suppressing inflammation, inflammasomes, oxidative stress and carbonyl stress.

"Coronaviruses and influenza are among the viruses that can cause lethal [lung](#) injuries and death from acute respiratory distress syndrome worldwide. Viral infections evoke a cytokine storm, leading to lung capillary endothelial cell inflammation, neutrophil infiltration, and increased oxidative stress," they said.

Kumrungsee explained that thrombosis (blood clotting) and cytokine

storm (hyper inflammation) might be closely linked to the severity of COVID-19. Cytokine storms happen when the immune system goes into overdrive and starts attacking even healthy cells. Meanwhile, [blood clots](#) linked to COVID-19 can block capillaries, damaging vital organs like the heart, lungs, liver, and kidneys.

Vitamin B6 is a known anti-thrombosis and anti-inflammation nutrient. Deficiency in this vitamin is also associated with lower immune function and higher susceptibility to [viral infections](#).

"Vitamin B6 has a close relationship with the immune system. Its levels always drop in people under chronic inflammation such as obesity, diabetes and heart diseases. We can see from the news that obese and diabetic people are at high risk for COVID-19," Kumrungsee said.

"Thus, our attempt in this paper is to shed light on the possible involvement of vitamin B6 in decreasing the severity of COVID-19."

The associate professor said she is looking forward to clinical trials that would test their hypothesis.

"It is of great interest to examine if vitamin B6 exerts protection against novel types of virus infection and pneumonia which will be encountered in the future. At present, there is few information regarding the protective role of nutrients against pneumonia and lung diseases," she said.

"After COVID-19, we should develop the area of nutrition for lung diseases such as pneumonia and lung cancer."

More information: Thanutchaporn Kumrungsee et al, Potential Role of Vitamin B6 in Ameliorating the Severity of COVID-19 and Its Complications, *Frontiers in Nutrition* (2020). [DOI:](#)

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