Got Vitamin D? It May Mean Less Severe COVID-19

The “sunshine” vitamin may help the immune system fight the virus and avoid severe respiratory distress.

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There are many reasons to go outside for exercise while maintaining social distancing during the coronavirus pandemic. It’s good for the body and good for the mind.

Now there’s a new one: Vitamin D, which your body makes from the sunshine you’ll get outside, may mean milder COVID-19 illness. Diet and supplements are also sources of vitamin D. Vitamin D deficiency is widespread in the United States, especially in the elderly.

People who maintain adequate levels of vitamin D are more likely to have milder COVID-19 disease if they become infected with the new coronavirus, according to new studies presented in a Medscape video commentary by Harvard professor of medicine JoAnn E. Manson, PhD.

The vitamin plays a key role in immunity and is known to boost immune function against viral diseases, Manson notes. It also helps modulate immune response and can lower inflammation. That’s especially relevant when it comes to COVID-19, which can become particularly dangerous when it leads to the immune system overreaction known as a cytokine storm. Vitamin D modulates the response of white blood cells, preventing them from releasing too many inflammatory cytokines.

In one observational study from three South Asian hospitals, people with severe COVID-19 illness were much more likely to be vitamin D deficient. In another study, of 20 European countries, people with low vitamin D levels were likely to contract COVID-19 and more likely to die of it. A third study found that people with low levels were more likely to develop a cytokine storm and more likely to die of COVID-19.

Finally, a meta-analysis that pooled data from 25 randomized clinical trials looked at vitamin D supplementation. People given vitamin D supplements were 12% less likely to have severe respiratory symptoms. Among those with severe vitamin D deficiency, supplementation was associated with a 70% lower risk of severe respiratory infection.

“So the evidence is becoming quite compelling,” says Manson. “It’s important that we encourage

our patients to be outdoors and physically active while maintaining social distancing. This will lead to increased synthesis of vitamin D in the skin, just from the incidental sun exposure." (Note: The Skin Cancer Foundation recommends using sunscreen at all times when you are outside to reduce skin aging and help prevent skin cancer. People who wear sunscreen regularly still make plenty of vitamin D.)

Diet is another important source of vitamin D. Good food sources of vitamin D include fortified dairy products (such as milk), fortified cereals, fatty fish and sun-dried mushrooms. However, many people are not able to maintain healthy levels of vitamin D by going outside and eating vitamin D–rich foods, notes Manson. For them, it is "quite reasonable" to consider a vitamin D supplement.

While the recommended dietary allowance of vitamin D is 600 to 800 IU/daily (depending on age), "during this period, a multivitamin or supplement containing 1,000 to 2,000 IU/daily would be reasonable," says Manson, who is chief of the Division of Preventive Medicine at Brigham and Women's Hospital, in Boston. Manson and her colleagues are planning a randomized clinical trial to determine whether moderate to high doses of vitamin D may play a role in whether people become infected with the coronavirus in the first place, and, if so, how severe these infections become.

In a related development, an international consensus statement warns that while preventing deficiency is important, supplementation with vitamin D at the very high levels (4,000 IU/daily or more) has not been shown to be beneficial for people with COVID-19 and can be dangerous.

To watch the Medscape video, click here.

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