

Strong Immunity: What Role Does Vitamin D Play?

It is well-known that having a strong immune system makes it easier for the body to ward off harmful organisms like bacteria and viruses. Since the arrival of the coronavirus pandemic, there has been a lot of focus on how to strengthen immune function.

A 2021 systematic review and meta-analysis identified vitamin D as being associated with improved clinical outcomes in patients with COVID-19. Conversely, people who were deficient in vitamin D saw a heightened immune response and poorer recovery rates.¹

Vitamin D is a fat-soluble vitamin that is mostly known for its role in bone health and calcium metabolism, but it has other functions as well.

A deficiency of vitamin D (a blood level of less than 20 nanograms/milliliter) has been linked to a higher incidence of autoimmunity as well as a higher susceptibility to infection. Similarly, there appears to be an inverse relationship between vitamin D and the rate of infections. What this means is, maintaining adequate levels of vitamin D may offer some additional protection.²

Some of the most common symptoms associated with low vitamin D levels include fatigue, muscle weakness, and mood changes.³

The biggest source of vitamin D is through sun exposure. Sunlight triggers a series of chemical reactions in your skin that lead to the production of vitamin D. Spending as little as 10 to 15 minutes in the sun a few times a week is enough to saturate blood levels.⁴

While there are very few natural food sources for vitamin D, one exception is mushrooms. Certain mushroom varieties, such as oyster and shiitake, are also able to synthesize vitamin D when exposed to sun.⁵



If you have concerns that your vitamin D levels may be low, spend more time outdoors, include mushrooms on your menu regularly, and make an appointment with your doctor to share your concerns.

1. <https://doi.org/10.1007/s40618-021-01614-4>

2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3166406/>

3. <https://www.health.harvard.edu/staying-healthy/time-for-more-vitamin-d>

4. <https://doi.org/10.3390/nu10101498>

5. <https://my.clevelandclinic.org/health/articles/15050-vitamin-d--vitamin-d-deficiency>