

Vitamin D supplements may protect against viral infections during the winter

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Vitamin D may be known as the sunshine vitamin, but a new research report appearing in the *Journal of Leukocyte Biology* shows that it is more than that. According to the report, insufficient levels of vitamin D are related to a deficiency in our innate immune defenses that protect us from infections, neoplasias or autoimmune diseases. Since vitamin D levels decrease during autumn and winter when days are shorter and sunlight is relatively weak, this may explain why people are more prone to viral infection during these times. It also suggests that vitamin D supplementation, especially in older populations, could strengthen people's innate immunity against viral infections.

"There are numerous studies showing the benefits of maintaining adequate Vitamin D levels. As more and more research into Vitamin D is conducted, we are learning that it is extremely important for human health. Our study is no different, and vitamin D supplements should be considered one of many tools that might help when conventional therapies are not enough," said Victor Manuel Martinez-Taboada, M.D., a researcher involved in the work from the Division of Rheumatology at the Hospital Universitario "Marque's de Valdecilla," Facultad de Medicina at the Unversidad de Cantabria, in Santander, Spain.

To make this discovery, the researchers compared the changes in the blood levels of vitamin D among three groups of healthy subjects: young (age range: 20-30), middle (age range: 31-59), and elderly (age range: 60-86). They found decreased levels of vitamin D with aging, prompting researchers to compare whether such changes kept any relationship with

toll-like receptor (TLR) expression measured on lymphocytes and monocytes and function after in vitro stimulation with specific ligands for each of the nine human TLRs and measurement of effector molecules, such as proinflammatory cytokines. Specifically, they found that the TRL most affected by a vitamin D insufficiency is TLR7, which regulates the immune response against viruses. Finally, scientists studied whether there was any difference in the three age groups depending on the season of the year since it is well known that a limited sun exposure during darker winter months is related with vitamin D deficiency.

"Any school teacher will tell you that people tend to be sicker during the winter than any other time of the year," said John Wherry, Ph.D., Deputy Editor of the [Journal of Leukocyte Biology](#). "There have been numerous studies showing several environmental factors during winter months may allow viruses to spread easier. This study shows that sunlight, or more precisely the lack of vitamin D, could have a role in the seasonally higher rates of infection. More extensive studies must be conducted for this link to be conclusive, but since [vitamin D](#) supplements are inexpensive and generally safe, this is a really exciting discovery."

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