What’s the Link between MS and Vitamin D?

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Vitamin D and Multiple Sclerosis

Multiple sclerosis (MS) is a condition affecting your nerves and your body’s immune system. Your immune system, which is supposed to fight infections, goes haywire and attacks the nerves in your spinal cord and brain.

Recent research suggests MS and vitamin D are linked.

Studies show that people who are vitamin D deficient are at an increased risk of developing MS and people with MS have lower vitamin D levels than others in the general population.

Role of Vitamin D

Vitamin D is called the sunshine vitamin because it’s produced in our skin in response to sunlight. Your body needs vitamin D to absorb the nutrients you get from foods, especially calcium.

We generally can get most of our vitamin D from the sun, but it is also found in some of the foods we eat, including eggs, beef liver, milk, and oily fish.

Researchers have discovered that MS is more common in places further away from the equator because individuals in those countries receive less sunlight. They also have lower vitamin D levels causing researchers to believe there is a connection between vitamin D and MS.

Vitamin D and MS are Linked

It is not clear what causes MS, but growing evidence suggests vitamin D and MS are closely related.

Some studies indicate vitamin D deficiency plays a role in the development of the disease and others show vitamin D supplementation may reduce the risk for some people in developing the disease.

Other studies suggest vitamin D supplementation may reduce the symptoms of MS, but the numbers of these types of studies are few.

Disease Development and Risk Reduction

A 2014 study presented at the American Association of Neuromuscular and Electrodiagnostic Medicine’s (AANEM) annual meeting finds vitamin D deficiently is surprisingly common in people with MS, and other neuromuscular conditions.

Additionally, a 2015 Canadian study also confirmed a link between MS and vitamin D. The researchers noted MS patients might have genetic variations that may cause them to have low levels of vitamin D and make it more

likely they will develop the disease.

Furthermore, two large group studies out of the Harvard School of Public Health, Boston, Massachusetts, looked at possible proactive effects of vitamin D on MS by examining the role of dietary vitamin D in women at risk for MS.

Over 190,000 women were assessed every four years, and during the final review, 173 cases of MS were confirmed.

The results confirmed the women with the highest vitamin D intake had the lowest risk of developing MS, while the women taking the lowest dose or not taking any supplement at all had the highest risk.

The results suggest taking a proactive effort to keep vitamin D levels maintained reduces the risk of developing MS.

Moreover, a 2012 study by researchers out of the Isfahan University of Medical Sciences, Isfahan, Iran, looked at whether vitamin D supplementation reduced the risk of MS development in patients who were at high risk for the condition.

The findings concluded vitamin D supplements did, in fact, lessen the likelihood of developing MS and supplementation did significantly reduce the number of brain lesions in MS patients.

Brain lesions in MS patients mean nerve tissues have been damaged, leading to symptoms in the areas affected by damaged nerves and new lesions could result in further loss of function.

Treatment

A 2009 Paris report looked at the possible implications of vitamin D deficiency in people with MS by studying various clinical studies.

They confirmed the connection between MS and vitamin D deficiency is problematic, but quickly resolved, and neurologists and other treating physicians should be aware of the implications of low vitamin D on their MS patients.

In 2011, researchers in New Delhi, India, similarly looked at clinical evidence relating to the interplay between vitamin D levels and MS.

Similarly to the Paris research team, their consensus was vitamin D deficiency was an unnecessarily problem that could easily be corrected but it, unfortunately, goes unnoticed resulting in MS complications.

It is possible vitamin D can treat the symptoms of MS according to a research study out of the University of Turku, Turku, Finland.

In this one-year, double-blind, placebo-controlled, randomized study of 66 MS patients, the researchers looked at whether vitamin D supplements had any effect in minimizing MS flares.

The Finish researchers determined that while vitamin D supplementation had no effect on the number of MS flares, maintaining vitamin D levels showed significantly fewer brain lesions in MS patients.

What Does This Mean For You?

There has not been enough conclusive evidence to confirm taking vitamin D supplements could reduce your risk for MS or treat symptoms once you have been diagnosed.

If you have MS and want to take vitamin D supplements, taking vitamin D won’t harm you or make MS symptoms

worse. It is also possible you may not see any symptom improvement either.

There hasn't been any consensus amongst researchers about how much vitamin D that MS patients should take, but the National Multiple Sclerosis Society suggests taking between 200 to 600 international units (IU) daily.

You can also boost your levels of vitamin D by getting at least ten minutes a day of sunshine or consume more foods containing vitamin D, including beef liver, egg yolks, cheese, and oily fish (e.g. salmon, mackerel, and sardines.)

You should not take vitamin D in the place of your MS medications. Talk to your doctor about checking your vitamin D levels and whether taking a vitamin D supplement is right for you.

Resources

Science Daily (High Prevalence of Vitamin D Deficiency Across the Board in Neuromuscular Disease)

PLOS Medicine (Vitamin D and Risk of Multiple Sclerosis: A Mendelian Randomization Study)

American Academy of Neurology (Vitamin D Intake and Incidence of Multiple Sclerosis)

National Institutes of Health (Clinical Implications of a Possible Role of Vitamin D in Multiple Sclerosis)

National Institutes of Health (Vitamin D and Multiple Sclerosis: Potential Pathophysiological Role and Clinical Implications)

National Institutes of Health (A Randomised, Double Blind, Placebo Controlled Trial with Vitamin D3 as an Add On Treatment to Interferon ?-1b in Patients With Multiple Sclerosis)

National Institutes of Health (Preventive Effect of Vitamin D3 Supplementation On Conversion of Optic Neuritis to Clinically Definite Multiple Sclerosis: A Double Blind, Randomized, Placebo-Controlled Pilot Clinical Trial)

National Multiple Sclerosis Society (Vitamin D and MS: Implications for Clinical Practice)