



Vitamin D May Ease Depression

Low Blood Levels of Vitamin D May Be Linked to Cause of Depression

WebMD Health News

Aug. 2, 2004 -- Vitamin D supplementation, shown in recent studies to help lower risk of certain cancers, [multiple sclerosis](#), [arthritis](#), and other conditions, may also relieve [depression](#), according to new research.

Canadian researchers say the benefit of supplementation may come in creating stores of this vital vitamin in the bloodstream to carry people through the dreary months of winter, when a lack of sunlight may lead to or worsen mood disorders -- most notably [seasonal affective disorder](#), the aptly acronym SAD that affects some 11 million Americans.

Patients with this so-called "winter depression" are advised to treat the condition with a special "light box" that mimics the effects of sunlight during winter months.

Problem From Low Blood Levels?

For this study, published in the July issue of *Nutrition Journal*, the researchers first identified 130 patients whose blood levels of vitamin D in the summer were considered normal -- about 24 ng/mL. However, some researchers believe that many Americans are vitamin D-deficient and that their blood level may be too low.

"If a patient measures at 24 ng/mL or less in the summer, it will likely drop to 16 ng/mL in the winter because the value you have in the summer is greater than what you'll have in February," says lead researcher Reinhold Vieth, PhD, a vitamin D researcher at Mt. Sinai Hospital in Toronto.

He then gave those patients a questionnaire to gauge their likelihood of depression. Those whose answers suggested a strong possibility of depression were then given [supplements](#) containing a daily dose of either 600 or 4,000 international units (IUs) of Vitamin D. They started taking the supplements in summer and continued through the winter.

The patients were re-evaluated a year later. With both doses, patients suffering from depression improved as their vitamin D levels increased to at least 40 ng/mL, what some vitamin D researchers recommend as a normal blood level.

"If I were to provide advice, I would say that anyone in North America should be able to walk into any drug store and buy 1,000 IU vitamin D supplements. And if you consume those

supplements every day, you should feel better," Vieth tells WebMD. "It appeared that instead of feeling worse in the winter, they actually felt better with the supplements."

How Much Is Enough?

The Institute of Medicine recommends 200 IU a day up to the age of 50, 400 IU from 51 to 70, and 600 IU over age 70. About 100 IU are found in an 8 ounce glass of fortified milk. Other nutritional sources of Vitamin D include:

- Canned pink salmon: 3 ounces contain about 530 IU of Vitamin D
- Canned sardines: 3 ounces contain about 231 IU of Vitamin D
- Fortified orange juice: 8 ounces contain about 100 IU of vitamin D
- Fortified cereal: 1 serving (about 1 cup) contains about 40-50 IU of vitamin D

In his study, Vieth found benefit from both dosages, although those taking 4,000 IU -- 10 times higher than what it found in most multivitamin supplements -- showed the most benefit.

"If you were to take 600 IUs forever, you'd be doing fine," he says. "But if you haven't taken supplements, taking the 4,000 dose over one winter is better."

These findings come as no surprise to John Cannell, MD, who heads the Vitamin D Council, a group of doctors and researchers who study the effects of this nutrient. He is staff psychiatrist at Atascadero State Hospital, a California psychiatric hospital.

"Basically, what vitamin D does is increase levels of the [chemical] serotonin in the brain," he tells WebMD. Many antidepressant medications work the same way.

"About 90% of patients in my hospital are vitamin D deficient, and I put them on a vitamin D regimen, and it does improve their mood disorders," says Cannell. "It also raises their vitamin D blood levels to above what is considered normal, to about the 40 ng/mL levels."

Don't Stop Other Medication

His advice: First get a simple blood test to measure blood levels of vitamin D. If it falls under 40 ng/mL, he recommends taking daily supplements of at least 600 IU and up to 10,000 IU a day. However, if you are currently taking antidepressants, don't stop taking those drugs if you begin taking the vitamin supplements.

"What this study suggests that is vitamin D deficiency may be an explanation for depression, and that boosting vitamin D levels may help prevent or ease symptoms," Cannell tells WebMD. "But how much vitamin D you need depends on several factors, such as the environment you live in, what time of year it is, your skin type, and sun exposure.

"Taking 4,000 IUs may sound like a lot, but there has never been a single reported case of toxicity at levels up to 20,000 IUs a day," he says. "Your body takes in about that much from

sunlight by spending 20 minutes outdoors ... during the summer months. The problem is what happens in winter, when sunlight -- and vitamin D -- is in shorter supply."