

A Deficiency of D?

By Sally Squires

A new national study finds that most adults, especially those over 50, fall short on recommended daily levels of vitamin D, an essential nutrient long known to preserve bones and now increasingly tied to protection against ailments from cancer to rheumatoid arthritis.

And no, just drinking more vitamin-D fortified milk or juice may not make up the deficit, many experts say, although it can help. Spending 10 to 15 minutes in the sun, done with proper care, might.

The study is based on data drawn from a large, federally funded national health survey and analyzed by a team of scientists from Boston University and private industry. Presented yesterday at the Experimental Biology annual meeting in San Diego, the study found that vitamin D intakes peak during childhood and teenage years and then decline.

Women ages 19 to 50, as well as men and women 51 and older, ate the least food rich in vitamin D. Even when the team accounted for use of vitamin D dietary supplements, few older men and women reached recommended daily levels. The researchers concluded that the low intakes, especially for the aged, "warrant intervention."

At a time when researchers are discovering a widening role for vitamin D, "many lines of investigation indicate that most Americans do not have optimal levels of vitamin D, mainly because of low sunlight exposure," said Walter Willett, chairman of the Department of Nutrition at the Harvard School of Public Health in Boston. Willett convened a meeting in January with leading vitamin D researchers and vitamin manufacturers to review the latest findings. Since there are limited food sources of vitamin D, "the most practical way to increase our vitamin D levels is from supplements," Willett said.

Unlike other essential nutrients, vitamin D is made by the skin, which requires ultraviolet light to produce the vitamin from cholesterol. Those in the Washington area and others who live north of Newport News, Va., often don't get enough sun exposure year round to make sufficient vitamin D.

Concern over skin cancer means that more people are wearing sunblocks, which inhibit production of vitamin D. Dark-skinned people have to spend up to a couple of hours in the sun to make enough vitamin D. Light-skinned people can get what they need in about 10 to 15 minutes.

The skin's ability to make vitamin D declines significantly with age. For this reason, the National Academy of Sciences (NAS) set the latest vitamin D daily intake on an age-related scale: 200 International Units (IU) -- about the amount found in two eight-ounce

glasses of milk -- for those 19 to 50 years of age; 400 IU for those aged 51 to 70 years; and 600 IU for people 70 and older. The NAS also set a tolerable upper intake of 2,000 IU for adults. Toxic levels have been reported at 10,000 IU or higher per day.

But a growing number of scientists believe that vitamin D intake should be at least 1,000 IU or higher.

"Fifty years ago, a bunch of guys got in a room and said, 'We know that a teaspoon of cod liver oil cures rickets in a child and it has 400 IU of vitamin D,' " said Bruce Hollis, a professor of pediatrics, biochemistry and molecular biology at the Medical University of South Carolina. "They transposed that amount onto adults. It was arbitrarily set with no evidence [in adults] at all."

Where research once suggested a limited health role for vitamin D, today there is increasing evidence that it protects against breast, colon and prostate cancer. Population studies show that people with the highest vitamin D levels are less likely to develop multiple sclerosis, lupus, rheumatoid arthritis and other autoimmune diseases than those with lower levels. Plus it appears that vitamin D may protect against heart disease, type 2 diabetes and the insulin resistance that precedes it.

"If just half the chronic diseases laid at the feet of vitamin D pan out, it will be quite significant," said Robert P. Heaney, a professor of medicine at Creighton University in Omaha and a proponent for increasing vitamin D intake.

Just a decade ago, scientists developed an inexpensive blood test that more accurately determines vitamin D status. Use of that test revealed widespread deficiencies and led the NAS to note in 1997 that vitamin D "deficiency is now a significant concern in adults over the age of 50 years who live in the northern industrialized cities of the world."

In 2004, the dietary guidelines scientific committee concluded the elderly, people with dark skin and those exposed to insufficient sunlight "are at risk of being unable to maintain vitamin D status" and may "need substantially more than" the 1997 recommendations called for.

But some doctors worry that the evidence is still preliminary. Few if any studies "show that people are having problems with the lower limits of vitamin D being where they are," said New York University dermatologist Darrel Rigel, a past president of the American Academy of Dermatology.

Dermatologists are particularly concerned that raising the vitamin D recommendation might tempt some people to spend more time in the sun or in tanning booths, thus increasing their risk of skin cancer. "Our recommendation is to take either vitamin pills or eat food that we know has higher levels of vitamin D," rather than increase sun exposure, said Henry Lim, chairman of dermatology at the Henry Ford Hospital in Detroit.

Here's how to boost vitamin D levels safely:

Drink vitamin D fortified beverages. While diet alone is unlikely to get you to the levels needed, drinking milk and other vitamin D fortified beverages will help. Some

juice and soy milk is also fortified. An 8-ounce glass of any of these beverages delivers about 100 IU, or about half the intake recommended daily for adults 19 to 50 years of age; a quarter of the amount for adults 51 to 70; and just a sixth of the intake for those 70 and older. Yogurt and cheese are not fortified with vitamin D.

Eat more herring and sardines. An ounce of pickled herring has nearly 200 IU of vitamin D. Two small sardines have 65 IU. But not all fish contains vitamin D. Salmon and tuna, for example, have none.

Breakfast on fortified cereal or cereal bars. A cup of vitamin D fortified cereal delivers about 40 to 60 IU of vitamin D. Fortified cereal bars have even less: about 30 IU per bar.

Take a multivitamin or other supplement. Most multivitamins, even the ones aimed at seniors, provide 400 IU of vitamin D, which won't cover those 70 and older. Some vitamin and health food stores sell gelcaps of vitamin D supplements that range from 700 IU to 2,000 IU. "The most practical way to increase our vitamin D levels is from supplements," said Harvard's Willett.

Fun in the sun. Fifteen minutes of peak sun exposure without sunscreen allows a light-skinned person to make about 20,000 IU of vitamin D, according to Hollis. But much of that dose quickly "goes away," he said. You'd need such exposures at least every few days in order to sustain adequate levels. Since regular sun exposure increases skin cancer risk, "it's okay to expose yourself a little to the sun," said Henry Ford's Lim, "but not too much."•

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