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## 6 Million U.S. Kids Lack Enough Vitamin D

Minority children are hit hardest, nationwide study finds

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MONDAY, Oct. 26 (HealthDay News) -- While the optimal amount of vitamin D is still subject to debate, a new study finds one thing is sure: over 6 million American children are getting too little of this essential nutrient.

"There are a lot of studies demonstrating associations between low levels of vitamin D and a laundry list of poor health outcomes," noted lead researcher Dr. Jonathan Mansbach, an assistant professor of pediatrics at Harvard Medical School and a pediatrician at Children's Hospital Boston.

"Given the preponderance of data and the safety profile of vitamin D, we believe many U.S. children would likely benefit from more vitamin D," he said.

The American Academy of Pediatrics recommends that children attain blood levels of vitamin D of at least 50 nanomoles per liter (nmol/L), while for adults, studies have found at least 75 nmol/L and perhaps up to 100 nmol/L could lower the risk of heart disease and specific cancers, researchers say.

For the study, reported in the November issue of *Pediatrics*, Mansbach and colleagues collected data on about 5,000 children under age 12 who participated in the 2001-2006 National Health and Nutrition Examination Survey.

Based on these data, the researchers found that 6.3 million U.S. children -- almost one in 5 -- were at less than the recommended 50 nmol/L level of vitamin D.

Moreover, more than two-thirds of children (24 million) have vitamin levels below 75 nmol/L, including 80 percent of Hispanic children, 92 percent of black children and 59 percent of white children, Mansbach said.

Children taking multivitamins that included vitamin D had higher levels overall, but less than half of all children were taking a multivitamin, the researchers said.

How children should get much-needed vitamin D is also a topic of debate, and the researchers recommend further study in this area.

Sun exposure is best for obtaining vitamin D, because the skin manufactures the nutrient upon exposure to sunlight. However, during the winter, UVB rays in the Northeast are insufficient for vitamin D production, experts

say, and sunscreen use in summer can also reduce the skin's ability to produce vitamin D. Only a few foods contain vitamin D naturally, namely fatty fish such as salmon, egg yolks, some cheese and some meats, including liver. Milk and some cereals are fortified with vitamin D.

Mansbach recommends vitamin D supplements, especially for those living in areas where the sun is scarce in the winter. Here again, the authors say more research is needed to determine the appropriate dosage.

"Summer sunlight exposure is the major source of vitamin D for most people," he said. "But [too much] sun exposure can cause sunburns and eventually skin cancer. Until more research is performed, we think the safest bet is to take vitamin D supplements," he said.

Some experts argue that more foods, such as pasta and bread, should be fortified with vitamin D.

"Food fortification would raise the levels of vitamin D for the U.S. population as a whole, but not everyone in the U.S. is vitamin D-deficient," Mansbach said. "Therefore, on a population basis, it's probably easier to have people take vitamin D supplements."

Samantha Heller, a registered dietitian, clinical nutritionist and exercise physiologist in Fairfield, Conn., also agreed that children should take vitamin D supplements. "Vitamin D deficiency has been linked to osteoporosis, fractures, muscle strength and falls, and low levels of vitamin D have been associated with several kinds of cancers, and there may be a link with cardiovascular disease," she said.

Adults would benefit from vitamin D supplements too, Heller said. Adults and children need somewhere between 800 and 1,000 International Units (IUs) of vitamin D a day, she said.

Dr. Michael F. Holick, professor of medicine, physiology and biophysics and director of the Vitamin D, Skin and Bone Research Laboratory at the Boston University School of Medicine, said that "we estimate that vitamin D deficiency is the most common medical condition in the world."

"Children should take vitamin D supplements and be less afraid of sensible sun exposure," Holick said.

"At a minimum, from the time a child is born, they should be on 400 IU of vitamin D a day," he said. "After the age of 1, they should be up to 1,000 IU per day, and teenagers should definitely be on 2,000 IU a day."

Holick would prefer to see the safe upper limit of vitamin D raised. "What I would recommend is that in the first year of life, it should be raised to 5,000 IU per day and for children over the age of 1 and all adults, 10,000 IU a day," he said.

SOURCES: Jonathan Mansbach, M.D., assistant professor of pediatrics, Harvard Medical School and Children's Hospital Boston; Samantha Heller, R.D., C.D.N., registered dietitian, clinical nutritionist, exercise physiologist, Fairfield, Conn.; Michael F. Holick, Ph.D., M.D., professor of medicine, physiology and biophysics, director, Vitamin D, Skin and Bone Research Laboratory, Boston University School of Medicine; November 2009, *Pediatrics*

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