

Health

Pregnant women and infants need more vitamin D, Pitt study says

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By Joe Fahy, Pittsburgh Post-Gazette

Many pregnant women who take multivitamin supplements may nevertheless have vitamin D insufficiency, according to a new study by University of Pittsburgh researchers.

The study found that more than 80 percent of black women and nearly half of white woman tested when their children were born "had levels of vitamin D that were too low, even though more than 90 percent of them used prenatal vitamins during pregnancy," said Lisa Bodnar, assistant professor of epidemiology at the University of Pittsburgh Graduate School of Public Health.

A high percentage of their newborns -- 92.4 percent of black infants and 66.1 percent of white infants -- also had insufficient vitamin D levels at birth, Dr. Bodnar said, noting that a newborn's level relies on vitamin D from the mother.

The study, which focused on women in Pittsburgh and surrounding communities, suggests that pregnant women and their newborns residing in the nation's Northern areas "are at high risk of vitamin D insufficiency, even when they regularly use a prenatal vitamin or multivitamin," researchers concluded.

They noted that infants whose mothers have low vitamin D levels may be at greater risk for rickets, a disorder associated with softening of the bones, and for other health problems that include type 1 diabetes and asthma.

Dr. Bodnar, who is also an assistant investigator at the Magee-Womens Research Institute, was the lead author of the study, published in the current issue of the Journal of Nutrition.

Vitamin D is found naturally in certain fish and also can be obtained from dietary supplements and fortified foods such as milk and some cereals. It also is made by the body in reaction to sunlight exposure.

The study evaluated data collected from 200 black women and 200 white women. They were randomly selected from more than 2,200 pregnant women enrolled in a study at the Magee-Womens Research Institute between 1997 and 2001.

Among both black and white women in the study group, vitamin D concentrations were highest in summer and lowest in winter and spring, said Dr. James M. Roberts, the research institute's director and the study's senior author. But seasonal differences were smaller for black mothers and infants, "whose vitamin D deficiency remained more constant," he said.

The disparity arises because darker-skinned people have to be exposed longer to the sun to make vitamin D, Dr. Bodnar said, and blacks are less likely than whites to take vitamin

supplements and eat certain vitamin D-fortified foods.

She said it is likely that people are spending less time in the sun, in part because of fear of skin cancer and premature aging. Many children also are spending more time indoors, she said, and use of sunblock can inhibit the skin's production of vitamin D.

She suggested that raising the level of dietary supplements might be a relatively safe way to increase vitamin D levels. While many prenatal vitamins contain about 400 international units of vitamin D, taking perhaps 1,000 units might be preferable, she said.

In an accompanying editorial, Marjorie McCullough, a senior epidemiologist for the American Cancer Society, said the study "illuminates the danger of assuming that prenatal vitamins in their present form are ensuring vitamin D sufficiency in pregnant women and their newborns."

While more study is needed to determine precise vitamin D requirements in all populations, "we do have enough evidence to show that current practices are not serving at-risk groups," she noted.

Other study authors included Dr. Hyagriv Simhan, Dr. Robert W. Powers, Michael P. Frank and Emily Cooperstein, all of the Magee-Womens Research Institute, Pitt Graduate School of Public Health, or the department of obstetrics, gynecology and reproductive sciences at Pitt's School of Medicine.

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