

Vitamin D Deficiency Linked to Severe Preeclampsia

Source: Food Product Design

Women with vitamin D deficiency during the first 26 weeks of their pregnancy may be at risk of developing severe preeclampsia, according to new research published in the journal *Epidemiology*.

Preeclampsia is a potentially life-threatening disorder diagnosed by an increase in blood pressure and protein in the urine. Researchers at the University of Pittsburgh Graduate School of Public Health studied blood samples collected from 700 pregnant women who later developed preeclampsia in an effort to examine a woman's vitamin D status during pregnancy and her risk of developing preeclampsia. Even among women taking prenatal vitamins, vitamin D deficiency is a common occurrence in pregnant women.

"For decades, vitamin D was known as a nutrient that was important only for bone health," said lead author Lisa Bodnar, Ph.D., M.P.H., R.D., associate professor in Pitt Public Health's Department of Epidemiology. "Over the past 10 to 15 years, scientists have learned that vitamin D has diverse functions in the body beyond maintaining the skeleton, including actions that may be important for maintaining a healthy pregnancy."

Bodnar and her colleagues also studied blood samples from 3,000 mothers who did not develop preeclampsia. The samples were collected between 1959 and 1965 at 12 U.S. sites enrolled in the Collaborative Perinatal Project. The blood was well-preserved, and researchers were able to test for vitamin D levels decades later.

Scientists controlled for factors that could have affected a woman's vitamin D status, including race, pre-pregnancy body mass index, number of previous pregnancies, smoking, diet, physical activity and sunlight exposure, which is the body's primary source of vitamin D.

The researchers found that vitamin D sufficiency was associated with a 40% reduction in risk of severe preeclampsia. However, there was no relationship between vitamin D and mild preeclampsia. The overall risk of severe preeclampsia in the women sampled was 0.6%, regardless of vitamin D status.

“Scientists believe that severe preeclampsia and mild preeclampsia have different root causes,” said senior author Mark A. Klebanoff, M.D., M.P.H., Center for Perinatal Research at The Research Institute at Nationwide Children’s Hospital and the Department of Pediatrics at The Ohio State University College of Medicine. “Severe preeclampsia poses much higher health risks to the mother and child, so linking it with a factor that we can easily treat, like vitamin D deficiency, holds great potential.”

“If our results hold true in a modern sample of pregnant women, then further exploring the role of vitamin D in reducing the risk of preeclampsia would be warranted,” said Bodnar. “Until then, women shouldn’t automatically take vitamin D supplements during pregnancy as a result of these findings.”

Obese women should be especially careful when pregnant, as obesity and vitamin D deficiency s are commonly associated. In addition, having low levels of vitamin D is highly prevalent in patients with type 2 diabetes, and the deficiency may be associated with poor blood sugar control.

Sources:

- University of Pittsburgh: Low Vitamin D Levels During Pregnancy May Increase Risk of Severe Preeclampsia