

Prenatal and post-partum vitamin D does not improve infant growth

Vitamin D supplementation during late pregnancy and early lactation does not affect child height at 1 year.

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August 16, 2018 – Vitamin D supplementation among Bangladeshi women during late pregnancy, with or without post-partum supplementation, did not affect offspring height at 1 year. Maternal vitamin D and calcium concentrations increased in a dose-dependent fashion but did not translate to improved growth among children born in this area of endemic vitamin D deficiency.

Daniel E. Roth, MD, PhD, with the University of Toronto and the Centre for Global Child Health, and colleagues reported their findings in the August 9, 2018 issue of the *New England Journal of Medicine*.

Impaired prenatal and childhood growth are important public health concerns in regions with high levels of vitamin D deficiency. Although observational studies and clinical trials have suggested a connection between vitamin D and child growth, these findings have not been corroborated by large-scale randomized intervention trials.

This randomized trial of maternal vitamin D supplementation enrolled 1300 Bangladeshi women at 17 to 24 weeks gestation into one of five groups: placebo, prenatal vitamin D at 4200 IU per week, prenatal vitamin D at 16,800 IU per week, prenatal vitamin D at 28,000 IU per week, or prenatal vitamin D at 28,000 IU per week plus post-partum vitamin D at 28,000 IU per week for 26 weeks. Child height at 1 year was compared between groups.

Of the 1164 children assessed at 1 year, length-for-age z scores did not differ by maternal vitamin D supplementation group (placebo, -0.93 ± 1.05 ; prenatal 4200, -1.11 ± 1.12 ; prenatal 16,800, -0.97 ± 0.97 ; prenatal 28,000, -1.06 ± 1.07 ; and prenatal and postpartum 28,000, -0.94 ± 1.00 ; $P = .23$). Increases to maternal, infant, and cord blood 25-hydroxyvitamin D levels were dose-dependent.

Asymptomatic hypercalcemia occurred in 0.7% of women and 0.6% of children but did not differ by study group. No adverse events related to hypercalcemia were noted.

“The WHO does not recommend routine vitamin D supplementation during pregnancy,” noted Dr Roth and colleagues, and “the present findings support this position, even in communities where vitamin D deficiency and fetal–infant growth restriction are endemic.”

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