

# Vitamin D deficiency during pregnancy may increase risk of MS in children

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Children of mothers with vitamin D deficiency during early pregnancy appeared to be at greater risk for multiple sclerosis (MS) in adulthood, according to an article published online by *JAMA Neurology*.

While elevated levels of vitamin D have been associated with a decreased risk of MS in adulthood, some previous research also has suggested that vitamin D exposure in utero may be a risk factor for MS in later life.

Kassandra L. Munger, Sc.D., of the Harvard T.H. Chan School of Public Health, Boston, and coauthors examined whether serum 25-hydroxyvitamin D (25[OH]D) levels in [early pregnancy](#) were associated with the risk of MS in children.

The authors identified 193 individuals (163 of them female) with a

diagnosis of MS whose mothers were part of the Finnish Maternity Cohort and matched 176 case patients with 326 control participants for comparison.

The majority of maternal blood samples (70 percent) to measure 25(OH)D levels had been collected during the first trimester and the average maternal vitamin D levels were in the insufficient vitamin D range.

The risk of MS as an adult was 90 percent higher in children of mothers who were vitamin-D deficient (25(OH)D levels less than 12.02 ng/mL) compared with the children of mothers who were not vitamin D deficient, according to the results.

The authors note that two prior studies examining the association between 25(OH)D levels in pregnancy/early life did not find an association with future MS risk in children. In the current study, the authors note a few limitations, including that maternal 25(OH)D levels during pregnancy are not a direct measure of the 25(OH)D levels to which the developing fetus is exposed.

The study concludes that "while our results suggest that [vitamin D](#) deficiency during pregnancy increases MS risk in the offspring, our study does not provide any information as to whether there is a dose-response effect with increasing levels of 25(OH)D sufficiency. Similar studies in populations with a wider distribution of 25(OH)D are needed."

"The study was made possible by biobanking efforts in Finland as part of the Finnish Maternity Cohort (FMC). ... When the FMC was established, it was not intended to create a resource for MS research, but its existence has created a powerful tool for understanding complex biology and disease," writes Benjamin M. Greenberg, M.D., M.H.S., of the University of Texas Southwestern, Dallas, in a related editorial.

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