

October 27th, 2010

A recent study demonstrates an association between maternal vitamin B12 status during pregnancy and children's cognitive functioning at age 9. Higher maternal plasma vitamin B12 concentration in pregnancy was an independent predictor of the child's cognitive performance.

MATERNAL VITAMIN B12 LEVELS INFLUENCE COGNITIVE DEVELOPMENT IN CHILDREN

Vitamin B12 is an important nutrient for brain development and function. Since fetal requirements are provided by the mother through the placenta, inadequate maternal levels directly affect the amount available to the fetus. Research has consistently shown that maternal nutritional status can influence metabolic, cardiovascular, and psychiatric health of their future children.

In a recent study, investigators analyzed the relationship between maternal plasma vitamin B12 status during pregnancy and the child's cognitive function at 9 years of age. Previous research had shown that maternal vitamin B12 status influenced intrauterine growth and insulin resistance in children at 6 years of age.

Subjects included two groups of children born in the Pune Maternal Nutrition Study. The two groups were selected based on the maternal plasma vitamin B12 concentration at 28 weeks of gestation. Group 1 included 49 children born to mothers with the lowest plasma levels of vitamin B12. Group 2 included 59 children born to mothers with the highest plasma levels of B12.

The differences in tested intelligence and visual agnosia (the ability to recognize shapes, people, sounds, smells, and objects) were not significantly different between the groups. However, children from group 2 performed significantly better on a test for sustained attention and on a test of short-term memory. The differences were still significant after appropriate adjustments for confounding factors.

Result of this study support the idea that maternal vitamin B12 status in pregnancy influences cognitive function in offspring.

Bhate V, et al. Vitamin B12 status of pregnant Indian women and cognitive function in their 9-year-old children. 2008. Food Nutr Bull 29(4): 249–54.