

Choline Supplementation During Pregnancy Presents a New Approach to Schizophrenia Prevention

Source: *Science Daily*

Choline, an essential nutrient similar to the B vitamin and found in foods such as liver, muscle meats, fish, nuts and eggs, when given as a dietary supplement in the last two trimesters of pregnancy and in early infancy, is showing a lower rate of physiological schizophrenic risk factors in infants 33 days old. The study breaks new ground both in its potentially therapeutic findings and in its strategy to target markers of schizophrenia long before the illness itself actually appears. Choline is also being studied for potential benefits in liver disease, including chronic hepatitis and cirrhosis, depression, memory loss, Alzheimer's disease and dementia, and certain types of seizures.

Robert Freedman, MD, professor and chairman of the Department of Psychiatry, University of Colorado School of Medicine and one of the study's authors and Editor of *The American Journal of Psychiatry*, points out, "Genes associated with schizophrenia are common, so prevention has to be applied to the entire population, and it has to be safe. Basic research indicates that choline supplementation during pregnancy facilitates cognitive functioning in offspring. Our finding that it ameliorates some of the pathophysiology associated with risk for schizophrenia now requires longer-term follow-up to assess whether it decreases risk for the later development of illness as well."

Normally, the brain responds fully to an initial clicking sound but inhibits its response to a second click that follows immediately. In schizophrenia patients, deficient inhibition is common and is related to poor sensory filtering and familial transmission of schizophrenia risk. Since schizophrenia does not usually appear until adolescence, this trait -- measurable in infancy -- was chosen to represent the illness.

Half the healthy pregnant women in this study took 3,600 milligrams of phosphatidylcholine each morning and 2,700 milligrams each evening; the other half took placebo. After delivery, their infants received 100 milligrams of phosphatidylcholine per day or placebo. Eighty-six percent of infants exposed to pre- and postnatal choline supplementation, compared to 43% of unexposed infants, inhibited the response to repeated sounds, as measured with EEG sensors placed on the baby's head during sleep.