

Public release date: 4-Feb-2008

Contact: Kathryn M. Abel

kathryn.m.abel@manchester.ac.uk

[JAMA and Archives Journals](#)

Severe stressful events early in pregnancy may be associated with schizophrenia among offspring

Children of women who undergo an extremely stressful event such as the death of a close relative during the first trimester of pregnancy appear more likely to develop schizophrenia, according to a report in the February issue of Archives of General Psychiatry, one of the JAMA/Archives journals.

The common conception that a mother's psychological state can influence her unborn baby is to some extent substantiated by the literature, the authors write as background information in the article. Severe life events during pregnancy are consistently associated with an elevated risk of low birth weight and prematurity. Schizophrenia, a disabling condition associated with abnormal brain structure and function, is increasingly believed to begin in early brain development. Environmental factors, including those occurring during pregnancy, and susceptibility genes may interact to influence risk.

Ali S. Khashan, M.Sc., of the University of Manchester, England, and colleagues used data from 1.38 million Danish births occurring between 1973 and 1995. Women were linked to close family members using a national registry, and the same registry was used to determine if any of these relatives died or received a diagnosis of cancer, heart attack or stroke during each mother's pregnancy. Their children were followed from the 10th birthday through June 30, 2005 or until they died, moved out of the country, or developed schizophrenia.

During the study period, mothers of 21,987 children were exposed to the death of a relative during pregnancy, 14,206 were exposed to a relative's serious illness during pregnancy and 7,331 of the offspring developed schizophrenia. The risk of schizophrenia and related disorders was approximately 67 percent greater among the offspring of women who were exposed to the death of a relative during the first trimester. However, death of a relative up to six months before or any other time during pregnancy was not related to risk for schizophrenia in the child, nor was exposure to serious illness in a relative. The association between a family death and

risk of schizophrenia appeared to be significant only for individuals without a family history (parents, grandparents or siblings) of mental illness.

Risk associated with exposure to a well-defined, objective stressful event confined to the first trimester of pregnancy suggests a number of possible mechanisms," the authors write.

Chemicals released by the mother's brain in response to stress may have an effect on the fetus developing brain. These effects may be strongest in early pregnancy, when protective barriers between the mother and fetus are not fully constructed.

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(Arch Gen Psychiatry. 2008;65[2]:146-152. Available pre-embargo to the media at www.jamamedia.org.)

Editor's Note: This study was funded by Tommy's the Baby Charity and the Stanley Medical Research Institute. Please see the article for additional information, including other authors, author contributions and affiliations, financial disclosures, funding and support, etc.
