



SCHIZOPHRENIA Factsheet

August 2020

How is maternal illness during pregnancy related to risk for schizophrenia?

Maternal illness during pregnancy with diabetes, *Toxoplasma gondii*, rubella, cytomegalovirus, herpes simplex virus and other microbes have been associated with brain and behavioural abnormalities in the offspring, and so have been investigated as possible risk factors for schizophrenia.

Cytokine and c-reactive protein alterations have been found in people with schizophrenia. C-reactive protein is a frequently used marker of systemic inflammation, and cytokines act to regulate immunological and inflammatory responses to pathogens. Increases in maternal c-reactive protein and cytokines during pregnancy may lead to alterations in neurodevelopment in the foetus.

What is the evidence for maternal illness during pregnancy as a risk factor for schizophrenia?

High quality evidence finds a small effect of increased risk of schizophrenia in the offspring of women with increased c-reactive protein levels during pregnancy. Moderate to high quality evidence suggests small effects of increased risk of schizophrenia in the offspring of women with increased cytokines IL-8 or IL-10 during pregnancy.

Moderate to high quality evidence finds a large association between risk of schizophrenia and exposure to maternal diabetes in utero, with no association with maternal urinary tract infections. Moderate to low quality evidence finds medium-sized effects of increased risk of schizophrenia with exposure to maternal infections in utero, particularly upper respiratory tract, genital or reproductive infections, also herpes simplex virus and *Toxoplasma gondii*, but not influenza.

For more information see the technical table



NeuRA (Neuroscience Research Australia) is one of the largest independent medical and clinical research institutes in Australia and an international leader in neurological research.

Diseases of the brain and nervous system pose the greatest health, economic and social burden of any disease group because they are chronic, debilitating and have no known cures.

Medical research is the cornerstone of efforts to advance the health and wellbeing of families and the community. Our dedicated scientists are focussed on transforming their research into significant and practical benefits for all patients.

While we hope you find this information useful, it is always important to discuss any questions about schizophrenia or its treatment with your doctor or other health care provider.

HOW YOUR SUPPORT HELPS

We are able to make significant advances due to the generosity of countless people. Your donation allows us to continue to work towards transforming lives. For information on how you can support our research, phone **1300 888 019** or make a secure donation at neura.edu.au/donate/schizophrenia.