

Non-severe infections can cause serious mental disorders

February 1 2017

A new study shows that non-severe infections that do not require hospitalisation can also increase the risk of subsequently developing schizophrenia or depression.

Previous studies have shown that patients who are hospitalised with severe infections have an increased risk of developing schizophrenia and depression. A study of the correlation between all infections that require treatment and mental disorders now shows that even minor infections such as those which are treated by a general practitioner can increase the risk of mental disorders.

"Our primary finding was that the risk of both schizophrenia and depression was increased in those who had infections. Both the non-severe infections that are treated by someone's own GP and the severe infections that require hospitalisation. The risk was increased in a dose-response correlation, which means that the risk was higher depending on the number of infections," explains the first author of the study, Ole Köhler-Forsberg from Aarhus University and Aarhus University Hospital, Risskov.

The results have just been published in the internationally recognised journal, *Acta Psychiatrica Scandinavica*.

The researchers identified all persons born in Denmark between 1985-2002 and studied the correlation between infections treated with antibiotics, antiviral drugs and medicines against fungal diseases and

parasites, as well as all admissions due to infections, and the subsequent risk of schizophrenia and depression in the period 1995-2013.

Looking at early developing depression and schizophrenia

During the period covered by the study, 5,759 people were diagnosed with schizophrenia and 13,044 with depression. Of those who were diagnosed with schizophrenia, 17.4 per cent had been hospitalised with infections, while this was also the case for 18.7 per cent of those who were diagnosed with depression. The study only covers early developing depression and schizophrenia. Thus, the average age of patients who developed [schizophrenia](#) was 18.9 years, while for patients who developed a [depression](#), it was 18.7 years.

The findings suggest that infections and the inflammatory reaction that follows afterwards can affect the brain and play a part in the development of severe mental disorders.

"It is also possible that antibiotics in themselves increase the risk of [mental disorders](#) due to their effect on the composition of the intestine (microbiota), which has close communication with the brain. Finally, our findings may be caused by genetic aspects, which is to say that some people have a higher genetic risk for getting more infections as well as a mental disorder," explains senior researcher on the study, Michael Eriksen Benros from Psychiatric Centre Copenhagen, Copenhagen University Hospital.

Provided by Aarhus University

Citation: Non-severe infections can cause serious mental disorders (2017, February 1) retrieved

26 April 2024 from

<https://medicalxpress.com/news/2017-02-non-severe-infections-mental-disorders.html>

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