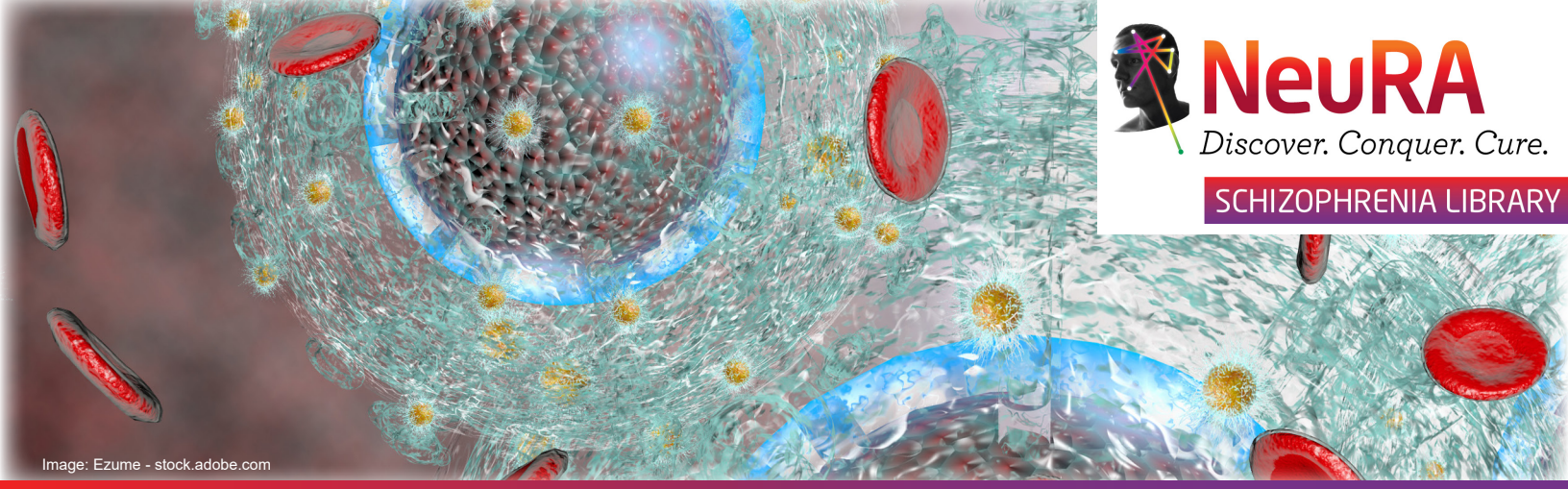

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SCHIZOPHRENIA LIBRARY

SCHIZOPHRENIA Factsheet

March 2022

How are familial physical features relevant to schizophrenia?

Relatives of people with schizophrenia may show attenuated signs of the illness, such as physical features that are commonly identified with the disorder. Identifying these signs can help determine how genetics may contribute to the risk of schizophrenia.

What is the evidence for familial physical features?

Moderate to high quality evidence finds increases in pituitary and left thalamus volume of relatives compared to controls. There were decreases in total grey matter volume, decreases in the hippocampus, third ventricle, bilateral anterior cingulate gyrus, right insula, left amygdala, left subcallosal gyrus, left inferior frontal gyrus, left middle temporal gyrus, and right cerebellum of relatives.

There was also abnormal brain activation in relatives compared to controls during cognitive tasks. Relatives show abnormalities in closed loop gain during smooth pursuit eye movement tasks. There was increased intrusive anticipatory saccades, impairment in fixational stability, and increased error rate in visual and memory guided saccades. EEG studies also show abnormalities, with large effects of increased P50 ratio and reduced P50 suppression, a medium-sized effect of reduced P300 amplitude, a small to medium-sized effect of longer latency, and a small trend effect of reduced mismatch negativity amplitude in relatives.

Moderate quality evidence found biochemical alterations in relatives compared to controls. There were small effects of increased thalamic glutamate + glutamine concentrations and reduced variability of striatal D2/D3 receptor availability. There was reduced glutamate/glutamine ratio in the dorsolateral prefrontal cortex, and reduced N-Acetylaspartate/creatine ratio in the anterior cingulate cortex and hippocampus of relatives.

There were large increases in rates of neurological soft signs (mild motor or sensory anomalies), and small increases in rates of movement disorders (dyskinesia or parkinsonism) in relatives compared to controls.

For more information see the technical table

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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**.

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