
CORTICAL THICKNESS IN INDIVIDUALS WITH NONCLINICAL AND CLINICAL PSYCHOTIC SYMPTOMS.

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Introduction: Symptoms that are linked to schizophrenia and other psychotic disorders, such as auditory verbal hallucinations (AVH), are also commonly reported by individuals who function well in society. These individuals are not in need for care, do not suffer from schizotypal personality disorder or other psychotic disorders, and provide the opportunity to investigate the relationship between nonclinical psychotic symptoms and brain morphology.

Methods: Fifty individuals with nonclinical AVH, 50 patients with a psychotic disorder and AVH, and 50 healthy controls underwent structural magnetic resonance imaging. The three groups were matched for age, gender, handedness and years of parental education. Cortical thickness was assessed using the FreeSurfer software suite.

Results: Cortical thickness in the left pars orbitalis, left paracentral gyrus, right fusiform gyrus and right inferior temporal gyrus was lowest in patients, intermediate in the nonclinical AVH group, and highest in controls. The patients also showed additional cortical thinning in widespread frontal, temporal and parietal areas compared to both other groups. In additional analysis, ranking the levels of cortical thickness per brain region across groups revealed that for the large majority of brain regions (88%), the patients had the lowest cortical thickness, the nonclinical individuals with AVH were in between, and the control subjects had the highest cortical thickness.

Discussion: Individuals with nonclinical psychotic symptoms show a similar but less pronounced pattern of cortical thinning as patients with a psychotic disorder, which is suggestive of a similar, but milder underlying pathophysiology in the nonclinical hallucinating group compared to the psychosis group.