

Methods. This study used T1 imaging with Freesurfer analysis to investigate the differences in thalamic nuclei in 98 young people (53 with PEs) over three time points, from ages 11 to 18. A linear mixed effects (LME) model was used to examine the longitudinal nature of the data.

Results. The findings were entirely left sided – specifically a smaller left whole thalamus ($p = 0.04$), significant reduction in the size of the left pulvinar ($p = 0.008$) and a slight increase in the size of left ventral nucleus ($p = 0.005$).

Conclusion. This study found significant volumetric differences in thalamic functional composite nuclei between adolescents with a history of PE compared with healthy controls. Two such nuclear groups survived post-hoc DTR testing, the left ventral and left pulvinar nuclei. The pulvinar nucleus demonstrated a reduced volume over time in PE groups compared with healthy controls whilst the left ventral nucleus demonstrated an increased volume over time in PE groups compared with controls. The thalamus has been shown to be actively involved in the modulation of cortico-cortical communication via cortico-thalamo-cortical pathways, thus synchronizing the activity of the cortex during tasks that require attention. One of the core deficits believed to be a part of psychotic illnesses is the inappropriate modulation of attention through various cortical networks. This disrupted modulation results in a lack of control of goal-directed behaviour and can be attributed to the changes seen in pulvinar in psychotic illnesses, thus resulting in impairment in the integrity of sensory information and context processing. The affiliation of the ventral thalamic nucleus to the dopaminergic system, particularly the substantia nigra, may aid in explaining why this nucleus demonstrates larger volumes in adolescents with PEs compared with healthy controls over time.

More research needs to be done on following this cohort up, specifically investigating changes in thalamic nuclei in those who develop a diagnosable psychotic disorder.

Abstracts were reviewed by the RCPsych Academic Faculty rather than by the standard *BJPsych Open* peer review process and should not be quoted as peer-reviewed by *BJPsych Open* in any subsequent publication.

Linguistic Creativity and Formal Thought Disorder in Schizophrenia

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doi: 10.1192/bjo.2024.137

Aims. The present investigation was interested in whether formal thought disorder (FTD) in schizophrenia was in any way related to linguistic creativity. The project's main aims and research questions were the development of operational definitions of linguistic creativity and FTD in schizophrenia, an investigation of creative language processing in schizophrenia, and an investigation of creative language output in schizophrenia.

Methods. We designed a psycholinguistic experiment and collected natural language data to build a specialised schizophrenia corpus. Recruitment for the psycholinguistic experiment was challenged by the COVID pandemic and the technical abilities of

clinical participants. Those data are thus underpowered and not reported in the results. We collected sufficient data for the construction of the specialised corpus.

Results. We tested an operational definition of FTD in schizophrenia (the '4TD Framework') against our natural language dataset. There was good support for the framework, with grammatical and discourse tracking features reliably distinguishing clinical and comparison speakers ($p < 0.05$). We also examined concordance lines and grouped random concordances into error types. Error types were consistently similar across groups, suggesting that speech disturbances in schizophrenia are on a continuum with those of nonclinical speakers. We also conducted a keyness analysis to examine the key terms and semantic categories present in the corpus and noted significant differences in the clinical cohort. Clinical participants found discussion of the topic of linguistic creativity more challenging, deviating from topic more often. They also involved topics of emotional and personal concern at rates of up to 16 to 32 times more often than comparison participants in some cases.

Conclusion. Our results provide support for the dysexecutive and dyssemantic hypotheses of FTD, as well as work on the Thought Language Index (TLI) that also suggests that language disturbances in schizophrenia and FTD are on a continuum with nonclinical speech. Further research is needed to understand how these phenomena are positioned in relation to FTD as a transdiagnostic entity.

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Patterns of Psychiatric Help Seeking Behaviour Among Patients With Psychotic Illness, Presenting at Mental Health Institute in Pakistan

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doi: 10.1192/bjo.2024.235

Aims. To identify the patterns of psychiatric help seeking behaviour among patients with psychotic illness presenting to mental health institute in Pakistan.

Methods. This Descriptive, Cross-Sectional Design comprised of a sample of 103 patients with psychotic diseases, chosen via non-probability – consecutive sampling at Outpatient Department of Sir Cowasjee Jehangir Institute of Psychiatry, Hyderabad. The relatives of psychotic patients who were between 18 and 65 years of age with either gender and living with at least one family member were interviewed after taking informed written consent. An anonymous self-structured questionnaire containing inquiries pertaining to basic biodata, sociodemographic details, psychiatric diagnosis and disease particulars, pattern of help seeking and time and reasons for delay.

Results. The mean age of the sample stood at 32 years (± 9.5 SD). 1/3 of the sample comprised of male patients while only 24% were comprised of female population. The mean time elapsed after first episode psychosis till interview was 82 ± 32 months (7 years) while mean delay in help seeking to any helper was reported to be 41 ± 17 months (3.5 years). Majority of the patients approached first to faith healers (Aamil Baba, Witch Doctor,

Pir, Religious Leader, Molvi, Imam or Religious Cleric) while only 1/5 of the patients approached to psychiatrists for treatment of first psychotic episode. The mean time duration to approach to psychiatrist after first episode psychosis was reported to be 73 ± 38 months (around 6 years).

Conclusion. The study showed that most frequent source of health care for psychiatric patients were faith healers (Aamil Baba, Witch Doctor, Pir, Religious Leader, Molvi, Imam or Religious Cleric) as compared with one-third who went to qualified healthcare providers like psychiatrists or physicians. There is a huge delay in proper help seeking among psychiatric patients. Health education aiming at increasing awareness among general population regarding treatment options for psychiatric illness is recommended to improve the quality of life of people living in our locality.

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Determinants of Physical Health Outcomes in Individuals With Schizophrenia, Schizoaffective Disorder, and Bipolar Affective Disorder

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doi: 10.1192/bjo.2024.236

Aims. Individuals with schizophrenia, schizoaffective disorder, and bipolar affective disorder have higher rates of cardiometabolic disease and have a reduced life expectancy compared with healthy controls. These mental health conditions are highly heritable and neurodevelopmental copy number variants (CNVs) are known to increase the risk of these disorders. Neurodevelopmental CNVs have also been associated with a range of cardiometabolic disorders. The aim of this research was to examine the relationship between neurodevelopmental CNVs and cardiometabolic disease in individuals with schizophrenia, schizoaffective disorder, and bipolar disorder.

Methods. Using data from the UK Biobank, a group of individuals with schizophrenia, schizoaffective disorder and bipolar affective disorder was defined ($n = 2,611$) based on first-occurrence data. CNVs had previously been called using PennCNV and a set of 53 neurodevelopmental loci annotated. I carried out association analyses between neurodevelopmental CNVs and cardiometabolic disease phenotypes using logistic regression with age and sex as covariates.

Results. There was a higher frequency of ischaemic heart disease, hypertension, obesity, and type 2 diabetes mellitus in individuals with schizophrenia, schizoaffective disorder and bipolar disorder than in controls. 2.1% of individuals with these mental health conditions carried a neurodevelopmental CNV. Carrying a neurodevelopmental CNV was significantly associated with type 2 diabetes mellitus (OR = 1.94, 95% CI 1.09–3.57, $p = 0.025$). However, this result did not survive Bonferroni correction for four tests (p value threshold 0.0125). I did not find any mediators of the neurodevelopmental CNV – type 2 diabetes mellitus association (of obesity, hypertension, cognition, smoking and socioeconomic status).

Conclusion. The relationship between neurodevelopmental CNVs and type 2 diabetes mellitus should be examined in independent samples.

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Efficacy of Transcranial Magnetic Stimulation (TMS) on Negative and Cognitive Symptoms in Schizophrenia – a Systematic Review and Meta-Analysis

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doi: 10.1192/bjo.2024.237

Aims. Traditional antipsychotic treatment improves positive symptoms in schizophrenia but has little impact on negative and cognitive symptoms. TMS is a non-invasive neuromodulation technique which has been suggested to impact negative and cognitive symptoms of schizophrenia. This systematic review critically appraised the research evaluating the effect of TMS on negative and cognitive symptoms of schizophrenia. Furthermore, we carried out a meta-analysis of randomised controlled trials of the effect of TMS on negative symptoms in schizophrenia.

Methods. Systematic review was carried out according to PRISMA guidelines. Cochrane Library, Ovid Medline, Science Direct and PubMed databases were searched for relevant studies using the search terms: “transcranial magnetic stimulation” OR “TMS” OR “repetitive transcranial magnetic stimulation” OR “r-TMS” OR “theta burst stimulation” OR “TBS” AND “negative symptoms” OR “cognitive dysfunction” OR “cognitive impairment” AND “schizophrenia” OR “psychosis”. Only randomised controlled trials evaluating the effect of TMS (rTMS or iTBS, intermittent theta burst) on negative and/or cognitive symptoms in schizophrenia were selected. Thirty-three studies were included in the systematic review. The Standardised mean difference (SMD) with 95% confidence interval (CI) was calculated for each study and pooled across studies using an inverse variance random effect model.

Results. Sixteen studies demonstrated significant improvement in negative symptoms with a superior effect of TMS compared with sham intervention. Eight studies showed improvement in certain domains of cognition and one study showed a delayed effect on negative symptoms. Studies which showed positive effects on negative symptoms have used similar TMS parameters such as 10 Hz over L-DLPFC (Left dorsolateral prefrontal cortex) except for a few studies. Ten studies reported negative results for negative and/or cognitive symptoms, TMS parameters and duration of treatment used varied among these studies. Overall, SMD for SANS (Scale for Assessment of Negative Symptoms) was 0.89 (95%CI: 0.46–1.32, $P < 0.00001$) and for PANSS-N (Positive and Negative Syndrome scale-negative) was 0.67 (95%CI: 0.22–1.12, $P < 0.00001$), both in favour of TMS. The heterogeneity of the included studies was high, I^2 = 85% for SANS and 92% for the PANSS-N subscale with a small to moderate risk of publication bias.

Conclusion. High-frequency rTMS is more effective than sham in improving negative and cognitive symptoms in schizophrenia. Our results suggest the need for well-designed randomised controlled trials with larger sample sizes and standard harmonised cognitive assessments to assess the effect of TMS on negative and cognitive symptoms to provide sufficient evidence for inclusion in routine clinical practice.