

detection. The intricate fine-tuning of cognition by cerebellum has been substantiated by the Cerebellar Cognitive Affective Syndrome and “Dysmetria of thought” theory. However, the role of cerebellum in SCD is understated in research. This study aims to determine the relationship between cerebellar neuroimaging parameters and cognition in patients with SCD.

**Methods:** Patients with SCD, with a Clinical Dementia Rating score of 0, were assessed on Addenbrooke’s Cognitive Examination-III (ACE). Multiparametric MRI (Volumetric analysis of cerebellum, Diffusion tensor imaging at Middle Cerebellar Peduncles (MCP), Magnetic resonance spectroscopy (MRS)) was carried out. Relationship between cognition and neuroimaging parameters was determined.

**Results:** A total of 28 SCD patients with a mean age of  $70.89 \pm 3.89$  years were included. There were significant positive correlations of attention with axial diffusivities (AxD) at bilateral MCP; fluency with right cerebellar white matter volumes (CWMV); visuospatial function with left CWMV and fractional anisotropy (FA); total ACE scores with total CWMV, bilateral AxD. Significant negative correlations of myoinositol/creatinine (mI/Cr) with attention, fluency and memory were revealed on MRS. Linear regression analysis exhibited significant associations between total ACE scores and CWMV; attention and axial diffusivities; memory and right cerebellar volume; fluency and CWMV, Cerebellar cortical volumes; Visuo-spatial function and FA at left MCP.

**Conclusion:** The aforementioned significant relationships highlight the unique role of multiparametric neuroimaging in early detection of cerebellar ultrastructural alterations, and the modulatory impact of cerebellum in cognition during initial stages of AD continuum. Furthermore, longitudinal studies are warranted to predict long term cognitive outcomes in SCD using cerebellar neuroimaging parameters.

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.

### Effect of the COVID-19 Pandemic and Isolation Measures on the Mental Health Well-Being of Sixth Form Grammar School Students in Cumbria

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**Aims:** COVID-19 affected many countries globally, including the UK, to which the UK responded by placing lockdown measures throughout the country. This meant that many people were restricted in their everyday lives, including students. This study is used to understand the impact of these measures on sixth form students.

**Methods:** The Warwick–Edinburgh Mental Wellbeing Scale was sent to students in a sixth-form grammar school in September 2021 to assess students’ mental well-being. A semi-structured proforma was then also sent in May 2022 to compare students’ experiences and mental health before and after the lockdown measures.

**Results:** On the well-being scale, 47.1% of sixth-form students scored below 44 (average to low mental well-being), while 31% of the 1st year sixth-form students and 27% of the 2nd year sixth-form

students scored 40 and below (lower than average mental well-being). In the semi-structured proforma, 73.90% of students (n=69) experienced quarantine since the pandemic started. 69.10% of them felt that the quarantines negatively impacted their mental health. In response to the question ‘In your own words, what was the most difficult thing that you experienced during the COVID pandemic?’ (n=55), 5 general themes were identified: *Isolation, not socialising, loneliness, loss of teenage life/youth, and online learning.*

**Conclusion:** The study showed that the mental well-being of sixth-form grammar school students in Cumbria was mostly negatively affected by the lockdown measures. The authors concluded that more accessible and approachable support should be provided to students in case of a similar event. More research is needed to understand the long-term impacts of such measures on students’ school and social lives.

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### COVID-19 Vaccine and Active Infection Associated Neuropsychiatric Manifestations in an Adolescent: A Literature Review

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**Aims:** The aim of this study is to evaluate the literature for COVID-19 induced psychosis in a child and adolescent population.

**Methods:** This review included a comprehensive literature search across major databases, including MEDLINE, EMBASE, PsycINFO, and the Cochrane Library. The inclusion criteria encompassed case reports, case series, longitudinal studies, and observational studies involving children or adolescents (under 18 years) who had a diagnosis of COVID-19 or a recent history of COVID-19 vaccination and presented with features of psychosis. Data extraction focused on key demographic information, such as age, gender, and past medical and psychiatric history. Additionally, details regarding COVID-19 treatment and the management of psychosis were recorded.

**Results:** Eight studies included patients with a history of COVID-19 infection or vaccination who subsequently presented with psychosis. Five were male (62.5%), and three were female (37.5%). COVID-19 infection was confirmed by PCR (50%), antibody tests (25%), positive viral swabs (12.5%), or positive lateral flow tests (12.5%). Most patients were managed conservatively for COVID-19 (50%), while others received steroids (37.5%) or antibiotics (12.5%). Antipsychotic medication was the primary treatment for psychosis in most cases (75%), with some patients also receiving lithium (12.5%), SSRIs (12.5%), or benzodiazepines (12.5%). Regarding prior psychiatric history, 62.5% of patients had no previous psychiatric diagnoses. However, 25% had a history of learning disabilities, and 12.5% had a history of depressive disorder and illicit drug use.

**Conclusion:** Neuropsychiatric manifestations of COVID-19 in adolescents are less frequently reported compared with adults. Common presentations include insomnia, mood disorders, and, less commonly, psychosis. The precise mechanisms underlying these neuropsychiatric complications remain unclear, but they are hypothesized to be linked to an exaggerated immune response, including cytokine storms, triggered by the infection. This review highlights the need for further research and the development of