a validated, computerised assessment tool (THINC-IT). Psychiatric status and medication status were self-reported, and where possible, disorder severity measured using a rating scale (CGI-S).

**Results.** Participants with depression had a significantly higher COMPASS-31 and VAFS scores (higher being more severe), with effect sizes being medium to large. Medication did not fully explain the associations observed. Overall, participants with mental health disorders, when compared to healthy controls, had significantly higher levels of cognitive impairment. Levels of ANS dysfunction significantly and positively correlated with cognitive impairment. The severity of the psychiatric disorder significantly correlated with both ANS dysfunction (p < 0.001) and cognitive impairment. These results were found across all cognitive tests (p < 0.05), other than reaction times in the N-back test, a measure of working memory.

**Conclusion.** Our results show significant association between ANS dysfunction, psychiatric disorders and cognitive impairments. This is consistent with previously published data. There is now a need to understand the underlying mechanisms and the directionality of the associations. If these mechanisms are shared and relate to autonomic dysfunction, targeted treatments addressing this directly could be helpful with mental health disorders and associated burdensome symptoms, such as cognitive impairments and fatigue. This study is part of a wider project assessing cognitive ability and autonomic functioning in psychiatric populations, and investigating treatments that directly address autonomic dysfunction in psychiatric samples, such as non-invasive transauricular vagus nerve stimulation (taVNS).

---

**Examining the Levels of Violence in Mental Health Trusts**

Dr Charlotte Dinkel1* and Dr Khalil Hassanally2

1West London NHS Trust, London, United Kingdom and 2CNWL, London, United Kingdom

*Presenting author.

doi: 10.1192/bjo.2022.188

**Aims.** A recent NICE report stated that there were 68,683 assaults reported by NHS staff between 2013 and 2014. 69% of these were in the mental health or learning disability setting. We sought to explore the number of violent incidents within mental health trusts across England and to understand whether the levels of violence against staff have increased, decreased, or remained the same between the years 2014 to 2019. We also looked at whether a change in bed numbers correlated with the levels of violence experienced.

**Methods.** Mental Health Trusts in England were identified, and Freedom of Information requests were sent to them. We asked for the numbers of sexual and physical violence between the years 2014 and 2020, broken down by outpatient and inpatient setting. Using bed data from NHS England we looked at whether there was a correlation with violence.

**Results.** Out of the 53 trusts we approached with freedom of information requests, 43 returned responses with data that could be used for analysis. Data sets were often incomplete, especially for the earlier years requested. The total number of violent incidents from the 43 trusts was 24,393, in the year 2014. There was an increase to 37,907 by the year 2019, which may, in part, be explained by more complete data. Over the same time period, there was a decrease in bed numbers. Average number of episodes of violence per bed increased over 2014 to 2019 from 2 to 2.5, but the increase was not statistically significant. From our data, a correlation between the decrease in bed numbers and increase in rates of violence cannot be drawn.

**Conclusion.** The high number of violent incidents within the mental health setting remain troubling, particularly when taking into account that this analysis represented only a partial data...
Understanding the Developmental Pathways and Onset of Bipolar Disorder and Borderline Personality Disorder in Young People: A Systematic Review of Reviews

MSc Buse Beril Durdurak*, Professor Rachel Upthegrove, Ms Nada Altaweel and Professor Steven Marwaha
University of Birmingham, Birmingham, United Kingdom
*Presenting author.
doi: 10.1192/bjo.2022.189

**Aims.** There is still an ongoing debate on the nosological position of Bipolar Disorder (BD) and Borderline Personality Disorder (BPD). Identifying the unique and shared risks and developmental pathways in emerging BD and BPD could help the field refine aetiological hypotheses of these disorders. The study aims were to systematically synthesise the available evidence from systematic reviews and meta-analyses concerning environmental, psychosocial, biological, and clinical factors leading to the emergence of BD and BPD to identify the main differences and common characteristics between the two disorders to characterise their complex interplay whilst highlighting remaining evidence gaps.

**Methods.** A literature search was conducted PubMed, PsychINFO, EMBASE, Cochrane, CINAHL, MEDLINE, and ISI Web of Science as the data sources. 19 systematic reviews and meta-analyses involving 217 prospective studies met eligibility criteria.

**Results.** Results demonstrated that family history of psychopathology, addictive instability, attention deficit hyperactivity disorder, anxiety disorders, depression, sleep disturbances, substance abuse, psychotic symptoms, suicidality, childhood adversity and temperament dimensions were common predisposing factors across both disorders. There are also many distinct variables that could be found early in the course of both disorders. Most of the factors should be considered as a general, nonspecific precursor signs and symptoms of both BPD and BD, apart from subsyndromal depression, subsyndromal hypomania, cyclothymia disorder, psychotic symptoms, age at onset of major depression and frequency and loading of affective symptoms.

**Conclusion.** Although the findings of this review may lead to support the view of BD and BPD as two distinct disorders, there is not sufficient data to either indicate that BD and BPD are separate nosological entities or that BPD should be considered as an extension of BD disorders. Future research is required to increase our understanding of the aetiology of BD and BPD onset and their complex interplay by conducting prospective studies which concurrently examine multiple measures including biological, environmental, psychosocial and clinical factors in BD and BPD at-risk populations. Large, multilevel data sets will enable deep phenotyping and distinguishing pathophysiological pathways.

Transcranial Direct Current Stimulation in the Treatment of Post-Laminectomy Syndrome: A Clinical Trial

Ms Fernanda Faria*, Ms Marília Oliveira, Mr Demosthenes Júnior, Mrs Ana Olmos, Mrs Camila Cosmo and Mr Gerardo Filho
Faculdade de Medicina de São José do Rio Preto (FAMERP), São José do Rio Preto, Brazil
*Presenting author.
doi: 10.1192/bjo.2022.190

**Aims.** To evaluate the effectiveness of Transcranial Direct Current Stimulation (tDCS) in treatment of post-laminectomy syndrome.

**Methods.** Twenty-four patients were randomized in three groups to receive active or sham anodic stimulation (1.5 mA, 20 minutes for five consecutive days, with 25 cm2 electrodes) in two different areas (primary motor cortex (M1) vs. dorsolateral prefrontal cortex (DLPFC), according to lateralization of pain). Brief Pain Inventory (BPI) and Visual Analogue Scale (VAS) were instruments used to assess pain, while Clinical Global Impression Scale (CGI) was applied to measure severity disease and clinical response. Additionally, the quality of life assessment was based on World Health Organization Quality-of-Life Scale (WHOQOL-BREF). In order to identify psychiatric comorbidities, Beck’s Depression Inventory (BDI) and Beck’s Anxiety Inventory (BAI) tests were applied. Comparisons between groups were performed using one-way ANOVA, ANOVA-Welch, Kruskal-Wallis, Man-Whitney, and Fisher’s test.

**Results.** It is observed that there was a statistically significant difference (difference 0.15±95% CI, 7.07 ± 1,39) in the way individuals assess their quality of life and the improvement in pain intensity by VAS, especially in M1. The assessment of quality of life among those who showed improvement was higher than those who did not improved.

**Conclusion.** Application of tDCS in primary motor cortex (M1) produced an improvement in pain pattern in patients with post-laminectomy syndrome. Our data suggest that tDCS - a low-cost, technically simple and highly tolerable technique, is a promising technique for management chronic pain in disorders such as post-laminectomy syndrome.

Exploring School Students’ Knowledge and Expectations of Careers in Psychology, Psychiatry and Mental Health Nursing: A Thematic Analysis

Dr Hannah Fosker1*, Dr Hayley Andrews1,2, Ms Sarah Addison2 and Dr Rachel Winter2,1

1Leicestershire Partnership NHS Trust, Leicester, United Kingdom
2Leicester Medical School, University of Leicester, Leicester, United Kingdom
*Presenting author.
doi: 10.1192/bjo.2022.191

**Aims.** Attracting more doctors and nurses to mental health careers is vital to support the growing demand for mental health services. Despite low numbers of doctors choosing psychiatry, and a shortage of mental health nurses, psychology degrees remain a popular choice. This study explores the understanding and knowledge students studying psychology A Level have about mental health careers, and the careers guidance they have received. We ask ‘are students who are interested in studying psychology at university an untapped resource for recruitment to psychiatry and mental health nursing?’.

**Methods.** Focus groups were held with A-Level psychology students considering applying to university to study psychology. Focus group discussions were recorded, transcribed and anonymised and were analysed using thematic analysis.

**Results.** Three key themes were identified. Firstly, student interest in psychology as a degree subject (with mental illness, neurobiology and human behaviour cited as key interests). Secondly,