

## EPV0447

## From NMDA Receptor Antagonism to Cerebrovascular Effects: The Dual Facets of Nitrous Oxide in Bipolar Depression

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**Introduction:** Nitrous oxide (N2O) was first discovered in 1772 by Joseph Priestley. Since its anesthetic properties were realized in 1844, it has been used in the medical and dental fields. Nitrous oxide is also known as “laughing gas” or “nos”.

Recent literature suggests that studying N2O is important, not only for understanding the pathophysiology of bipolar depression but also for exploring its potential as a treatment.

N2O is often used recreationally for its euphoric, anxiolytic, and dissociative effects.

**Objectives:** To better understand the role of nitrous oxide, as well as its clinical implications.

**Methods:** A search was conducted in various databases, including PubMed.

**Results:** N2O has two potential ways to help with bipolar depression. Firstly, it can block NMDA receptors which can be beneficial for mood stabilization. Secondly, it can widen blood vessels in the frontal brain regions which can improve blood flow and oxygenation. Clinical studies have suggested the effectiveness of NMDA receptor antagonists in the treatment of depression. Among these studies, the use of ketamine has been a significant breakthrough in the treatment of depression.

Despite its medical uses, N2O has also gained popularity on a recreational level due to its relaxing, euphoric effects and its ability to provoke hallucinations. Unfortunately, recreational use of N2O can lead to various neuropsychiatric symptoms, such as emotional symptoms (mania, depression, anxiety), personality changes, aggressive behaviour, and psychotic symptoms.

**Conclusions:** Further research is needed to determine if N2O is beneficial in treating bipolar depression or if its use could lead to brain dysfunction (if taken recreationally).

**Disclosure of Interest:** None Declared

## EPV0448

## Cluster headache and Bipolar disorders: Phenotypical Overlap and Comorbidity.

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**Introduction:** Cluster headache (CH) and bipolar disorder (BD) are cyclic disorders with shared clinical aspects, e.g. disturbed

sleep patterns, response to lithium and a tendency to use illicit drugs.

**Objectives:** We investigated comorbidity of BD in patients with CH, prevalence of BD amongst CH family members, circadian aspects and use of illicit drugs.

**Methods:** Patients from the Leiden University Cluster headache neuro-Analysis program (LUCA) were screened cross-sectionally for BD online, using the Mood Disturbance Questionnaire (MDQ-NL) and Altman Self Rating Scale (ASRM-NL) and, if indicated, further evaluated with the Mini international neuropsychiatric interview (MINI). Circadian aspects were analyzed using the Circadian Type Inventory (CTI) and the Munich Chronotype Questionnaire (MCTQ).

**Results:** The life-time prevalence of BD in patients suffering from CH was 6.5%. Patients with comorbid BD (CH+BD) were more likely to have family members with BD (standardized OR= 1.50, 95% CI=1.15;1.95, p=0.003) and were more likely to suffer from chronic CH (OR=3.05 95% CI=1.18;7.87, p=0.02) after adjustment for age and sex. They also more often used illicit drugs, compared to patients with only CH. Circadian type and chronotype did not differ between the two groups after adjustment for confounders.

**Conclusions:** There is a high prevalence of BD in CH patients. CH +BD patients are more likely to have a positive family history for BD. CH+BD patients are more likely to suffer from chronic CH and more often use illicit drugs. In clinical practice it is important to screen for BD when treating patients with CH.

**Disclosure of Interest:** None Declared

## EPV0449

## Predisposing Factors for the Development of Insomnia in Patients With ADHD

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**Introduction:** Attention-Deficit/Hyperactivity Disorder (ADHD) often coexists with insomnia. Challenges of ADHD, like racing thoughts and restlessness, can exacerbate sleep issues. Addressing both conditions concurrently is crucial for comprehensive treatment and improved quality of life.

**Objectives:** The aim is to identify factors promoting insomnia in patients with ADHD.

**Methods:** The study is conducted on patients >18 years referred to the adult ADHD outpatient service of the Psychiatric Clinic of Ancona (Università Politecnica delle Marche, Italy). The Diagnostic Interview for ADHD in adults (DIVA 5.0) was used for diagnosis. Administered rating scales included Temperament Evaluation in Memphis, Pisa and San Diego (TEMPS-M), Coping Orientation to the Problems Experiences-new Italian version (COPE-NVI), Temperament and Character Inventory-Revised (TCI-R) and Insomnia Severity Index (ISI).

**Results:** 76% (n=170) of all screened patients were diagnosed with ADHD in adulthood. In our sample of ADHD subjects, those who have bipolar disorder in comorbidity tend to suffer more frequently from insomnia ( $\chi^2=4.290$ ;  $p=0.038$ ). A multivariate linear regression was observed between the ISI ( $R^2=0.237$ ;  $F(3,56)=13.150$ ;

$p < 0.001$ ) and TEMPS-M cyclothymic temperament subscale ( $B = -0.206$ ;  $p = 0.027$ ), TCI-R responsibility subscale ( $B = -0.255$ ;  $p = 0.005$ ), and TCI-R self-transcendence subscale ( $B = 0.101$ ;  $p = 0.06$ ). A logistic regression analysis was performed to ascertain the effects of all TCI-R, COPE-NVI, TEMPS-M subscales, on the likelihood of developing insomnia. The logistic regression model was statistically significant,  $\chi^2(1) = 4.539$ ,  $p = 0.033$ . The model explained 62.3% (Nagelkerke  $R^2$ ) of the variance in patients with ADHD and insomnia and correctly classified 76.7% of cases. Insomnia was significantly predicted by TEMPS-M irritable temperament subscale ( $\exp(B) = 1.272$ ;  $p = 0.003$ ), TCI-R disorderliness subscale ( $\exp(B) = 0.628$ ,  $p = 0.004$ ), TCI-R purposeful subscale ( $\exp(B) = 0.781$ ,  $p = 0.003$ ), TCI-R social acceptance subscale ( $\exp(B) = 1.232$ ,  $p = 0.052$ ), TCI-R compassion subscale ( $\exp(B) = 0.795$ ,  $p = 0.001$ ) and TCI-R transpersonal identification subscale ( $\exp(B) = 1.268$ ,  $p = 0.002$ ).

**Conclusions:** Findings suggest a link between ADHD patients with comorbid bipolar disorder and a higher incidence of insomnia. Personality traits such as cyclothymic temperament, low sense of responsibility, and high self-transcendence are significantly associated with insomnia in ADHD. The logistic regression model accurately predicted and identified key predictors for insomnia in ADHD patients, highlighting the substantial role of irritable temperament, rigidity in being orderly, low determination, high friendliness, low compassion, and high transpersonal identification. Understanding these associations is pivotal in developing targeted interventions and support strategies for individuals with ADHD prone to insomnia, emphasizing the intricate role of temperament and personality traits in sleep disturbances.

**Disclosure of Interest:** None Declared

## EPV0450

### Unveiling the Hidden Burden: Psychiatric Comorbidities in Dialysis Patients

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**Introduction:** Patients with End-Stage Renal Disease (ESRD) undergoing hemodialysis (HD) are particularly susceptible to psychological disorders, such as anxiety and depression, which can significantly affect their quality of life and clinical outcomes. However, in spite of its prevalence, psychiatric comorbidity in this population remains under-recognized, contributing to worse health outcomes and increased mortality.

**Objectives:** The primary aim of this study is to explore the prevalence of psychiatric comorbidities, particularly depression and anxiety, among HD and PD patients. Insights into the different psychological effects of different dialysis treatments are offered, emphasizing the importance of integrated mental and physical healthcare in improving patient outcomes.

**Methods:** A narrative review was carried out using PubMed and Google Scholar to identify relevant articles with the keywords "dialysis," "psychiatry," and "comorbidities."

**Results:** The review underscores the important burden of psychiatric disorders among dialysis patients. Studies suggest that depression may affect up to 50% of these individuals. Both HD and PD

patients exhibit varying degrees of psychological distress, exacerbated by factors such as the invasiveness of dialysis, comorbid medical conditions (e.g., diabetes), and socioeconomic challenges. The evidence suggests that HD patients may experience an even more heightened psychiatric burden due to the more invasive nature of HD compared to PD, which imposes greater restrictions on daily activities. Psychiatric disorders in these patients are often underdiagnosed, leading to treatment non-compliance, increased hospital admissions, and elevated mortality rates. The findings stress the necessity of regular mental health screenings and the integration of psychiatric care into routine dialysis practice.

**Conclusions:** Psychiatric comorbidities are prevalent among dialysis patients, with HD patients exhibiting a greater psychological burden. This review highlights the urgent need for routine mental health screening and intervention within the dialysis care framework. The integration of mental health support into dialysis treatment protocols could lead to improved patient outcomes, fewer hospitalizations, and better treatment adherence. Future research should focus on developing customized mental health interventions that address the specific challenges faced by dialysis patients, thereby enhancing their quality of life and clinical outcomes.

**Disclosure of Interest:** None Declared

## EPV0451

### A Case Report on The Course and Outcome of A Patient Diagnosed with Trichotillomania and Major Depressive Disorder

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**Introduction:** Trichotillomania (TTM) and Major Depressive Disorder (MDD) are two psychiatric conditions that frequently co-occur, presenting a significant challenge for treatment due to their complex interplay. TTM involves repetitive hair-pulling, leading to noticeable hair loss and distress, while MDD is characterized by persistent low mood and loss of interest or pleasure leading to dysfunctionality.

**Objectives:** This case report aims to discuss a case of a 21-year-old female with major depressive disorder and trichotillomania, management challenges, and the importance of a comprehensive, multi-faceted therapeutic approach to address both disorders effectively.

**Methods:** A 21-year-old female college student and youth church leader presented with chronic hair-pulling and depressive symptoms. She had low self-esteem and a strong need for validation. Despite her responsibilities, she struggled with emotional distress exacerbated by family dynamics and her church role. Her symptoms were linked to self-esteem threats and feelings of inadequacy. She was diagnosed with Trichotillomania, Scalp, and Major Depressive Disorder.

Initial pharmacologic management was Fluoxetine 20mg/day up titrated to 40mg/day with no improvement hence shifted to Escitalopram 20mg/day and N-acetylcysteine 1200mg/day with noted significant improvement in symptoms. Non-pharmacologic strategies included supportive-expressive psychodynamic psychotherapy, cognitive-behavioral techniques, and family therapy. Psychoeducation,