

Psychosurgery and Stimulation Methods (ECT, TMS, VNS, DBS)

O035

Transcranial magnetic stimulation in obsessive-compulsive disorder – a prospective observational study

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Introduction: Obsessive-compulsive disorder (OCD) has an estimated prevalence of 1-2% and causes a significant reduction in functionality and quality of life with a high socioeconomic impact. First and second line treatment includes serotonin reuptake inhibitors, clomipramine, antipsychotics augmentation strategy and cognitive behavioural therapy. It is ineffective in 20-60% of patients whose approach may include transcranial magnetic stimulation (TMS).

Objectives: The aim of this study is to assess the effect of treatment with TMS on obsessive-compulsive, anxious, and depressive symptoms in patients with OCD.

Methods: A prospective observational study was conducted including all patients diagnosed with OCD who underwent TMS in our department since March 2023.

Our protocol targets the dorsolateral prefrontal cortex and includes a total of 25 sessions using the Food and Drug Administration approved parameters (20 Hz, 100% of the leg resting motor threshold, 50 trains of 2s duration, inter-train interval 20s, 2000 pulses per session). Before each session, symptom provocation is performed. TMS was performed using the Cool D-B80 coil and a MagPro stimulator.

Symptoms before and after treatment were assessed using the Yale Brown Obsessive-Compulsive Scale (Y-BOCS), the Hamilton Anxiety Rating Scale (HAM-A) and the Hamilton Depression Rating Scale (HAM-D).

Results: As of 01/09/2024, 21 individuals with OCD completed TMS treatment, 57% male, with a median age of 37 years (interquartile range (IQR) 17). The median duration of illness was 25 years (IQR 15), with 24% of patients having very severe OCD, 52% severe, and 19% moderate—all refractory to psychotherapeutic and pharmacological treatment.

There was a statistically significant reduction in Y-BOCS scores (pre-TMS median score 29 (IQR 6), post-TMS 21 (IQR 13), $p=0.003$), with 32% of patients achieving a complete response (Y-BOCS reduction $\geq 35\%$) and 5% a partial response (Y-BOCS reduction $\geq 25\%$). No correlation was found between the change in Y-BOCS scores and other variables such as age, duration of illness, and pre-TMS scores on Y-BOCS, HAM-A, and HAM-D.

Additionally, a statistically significant reduction was observed in HAM-A scores (pre-TMS median 20 (IQR 18), post-TMS 16 (IQR 11), $p=0.026$) and HAM-D scores (pre-TMS median 19 (IQR 17), post-TMS 15 (IQR 14), $p=0.029$).

No severe adverse effects were reported.

Conclusions: This study shows significant reductions in Y-BOCS, HAM-A, and HAM-D scores after TMS treatment, with many

patients achieving complete or partial response. These findings align with previous research, suggesting TMS is an effective option for treatment-refractory OCD. The absence of severe adverse effects supports its safety.

In conclusion, this study adds to real-world evidence by demonstrating the efficacy and safety of TMS in a clinical setting. Continued data collection is crucial to identify predictors of response.

Disclosure of Interest: None Declared

Others

O035

Scars of War: Unveiling the Psychiatric Consequences of Conflict and Trauma

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Introduction: War and conflict have significant long-term effects on mental health, affecting both civilians and military personnel. Exposure to armed conflict greatly increases the risk of psychiatric disorders such as PTSD, depression, and anxiety. These effects are not limited to the immediate aftermath but can persist for years, even across generations. Vulnerable populations, including children, women, and refugees, are particularly at risk, facing compounded mental health challenges due to prolonged exposure to trauma and limited access to support.

Objectives: This poster aims to:

1. Explore the psychiatric consequences of war and conflict.
2. Investigate the development of PTSD, depression, and anxiety in conflict-affected populations.
3. Assess the role of transgenerational trauma transmission and its epigenetic effects.
4. Highlight the role of resilience and psychosocial support in mitigating these effects.

Methods: Data were drawn from various studies examining populations affected by conflict across different regions. Key metrics included the prevalence of PTSD, depression, and anxiety, and the impact of traumatic experiences. The role of social support and resilience factors in mitigating psychiatric outcomes was also analyzed.

Results: The findings consistently demonstrate high rates of PTSD and other psychiatric disorders in individuals exposed to conflict. Mental health impacts are often prolonged, with many individuals showing persistent symptoms years after the initial trauma. Additionally, research on epigenetic changes suggests that trauma can be passed down to future generations, potentially affecting their mental health. However, protective factors such as strong social support and community resilience were found to buffer the negative effects of trauma in some cases.

Conclusions: War and conflict have profound and lasting psychiatric consequences. The prevalence of mental health disorders is

significant among affected populations, and these effects can be transmitted across generations. Interventions should focus on providing timely mental health care, building resilience, and addressing the broader societal impacts of trauma. Early identification and support are critical to reducing the long-term mental health burden in conflict-affected areas.

Disclosure of Interest: None Declared

Psychosurgery and Stimulation Methods (ECT, TMS, VNS, DBS)

O036

On the central mechanisms of normalizing effect of vagus nerve stimulation

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Introduction: Neuromodulation technologies became the safe and effective alternative to treat psychiatric and neurological disorders. The current evidence from the up-to-date state in vagus nerve stimulation application in studies of emotional state modulation demonstrates a strong impact of vagus stimulation on the state of patients with a range of disorders. The normalizing effect of vagus nerve stimulation on abnormal sympathetic nerve activity may explain the beneficial effect on burnout, which is thought to be a manifestation of decreased vagus-mediated heart rate variability (HRV) under everyday stress.

Objectives: Considering all of the above, we aimed to explore the influence of a novel VNS stimulation protocol on emotional state, as well as highlighting specific features of the activation-related neurodynamics and the effects on HRV time, frequency and non-linear metrics.

Methods: 11 right-handed male volunteers aged 18-22 years participated in the 1st (EEG) study (6 persons-taVNS group and 5-SHAM) and 62 healthy volunteers 18-49 years old were recruited for 2nd (HRV) study (26-VNS group and 22-Sham). We used the combination of pleasant meditative classical music and a slow bi-polar wave of electrical non-invasive transcutaneous stimulation of auricular area (BrainPatch platform for non-invasive stimulation). Vagus nerve stimulation was arranged as a 4-day course. Psychological testing (State Anxiety, STAI; psychological stress level, PSM-25; severity of emotional burnout, MBI; depression, IDS) was carried out.

Results: Non-invasive stimulation was rated by the participants as a positive experience. We detected beneficial changes in the psychoemotional state of the respondents (improvement of mood, reduction of job related stress – emotional burnout). The increase of vagally mediated parameter RMSSD and decrease of LF/HF ratio

has reflected the activation of parasympathetic nervous system (PNS) during stimulation. HRV effects of VNS turned out to be short-term, which was manifested in a drop in the value immediately after the stimulation. EEG analysis indicated a long-term effect of VNS. Increased alpha and beta rhythms (generalized growth in the frontal and posterior cortex) and gamma activity (frontal region) after a series of 4 VNS sessions may indicate the improvement of mental processes and creative thinking (attention, information processing and memory storage). Enhanced activation level was mirrored in an increased beta/alpha ratio.

Conclusions: Our data suggests that VNS has a normalizing effect on the psychoemotional state shifting “sympatho-vagal balance” to the functional optimum. EEG data showed the prolonged stimulating effect on the brain processes related to the cognitive functioning while attenuating the stress impacts at the same time.

Disclosure of Interest: None Declared

Promotion of Mental Health

O037

Using Instagram to Promote Youth Mental Health: Feasibility and Acceptability of a Brief Social Contact-Based Video Intervention to Reduce Depression Stigma

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Introduction: Depression is a leading cause of disability among youth, with stigma significantly hindering mental health service utilization. Untreated depression is associated with greater severity, poorer outcome, and cognitive impairment. In addition to structural barriers to service use, stigma towards mental health is a profound obstacle that impedes individuals from seeking needed services. Reducing stigma toward depression can improve perceptions of treatment and engage young individuals with depressive symptoms in behavioral services.

Objectives: This study evaluates the feasibility and acceptability of delivering brief video interventions, proven to reduce depression stigma, via Instagram to promote help-seeking among youth. We hypothesized that the intervention would be both feasible and acceptable, generating higher link clicks and lower cost-per-click (CPC) compared to control videos.

Methods: A two-week Instagram campaign in February 2024 targeted U.S. adolescents aged 14-22. The campaign featured a 60-second human-narrated personal story video, previously shown to reduce depression-related stigma. The video showcased a young individual sharing their experience with depression, misconceptions about treatment, and the support they received. Engagement metrics assessed included impressions (video displays), reach (distinct viewers), link clicks (engagement with mental health resources), and CPC (cost-effectiveness). These were compared to four control videos: AI-narrated personal story (“Control 1”), human-narrated educational text (“Control 2”), AI-narrated educational text (“Control 3”), and an un-narrated educational text with background music (“Control 4”).