Image:

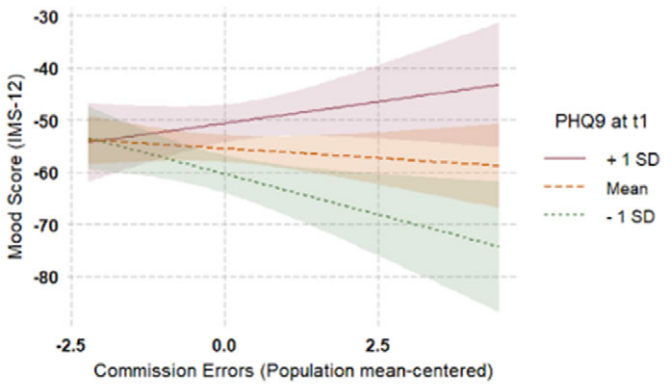

Figure 1. The interaction between momentary inhibition (commission errors) and depressive symptoms post-EMA in prediction of momentary mood reports (IMS-12) during the EMA.

Conclusions: Variable, rather than mere reduced inhibitory control is related to depressive symptoms. Moreover, the role of inhibition in modulating mood differs in non-depressed vs. depressed individuals. These findings contribute to our understanding of inhibition and mood in real life and help account for some of the discrepant findings related to cognitive control models of depression. Future investigations should examine the validity of these outcomes in other, clinical samples.

Disclosure of Interest: None Declared

EPP0603

Comparison of Machine Learning Algorithms For Beck Depression Inventory Measured Depression Status Classification

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Introduction: Depression is a psychiatric disorder characterized by low mood and anhedonia. The diagnosis of depression and the initiation of treatment is important for improving quality of life and avoiding disability. Machine learning (ML), can be used for solving classification and regression problems.In this study, scores of multiple psychiatric scales were used to detect depression and different ML algorithms were used to study if they can help for diagnosing depression accurately.

Objectives: The purpose of the study is to detect with high accuracy whether people are depressed or not by using widely used ML algorithms. It is also aimed to compare the algorithms used to predict depression with each other.

Methods: Data were collected from 96 university students. Beck Depression Inventory (BDI), Beck Anxiety Inventory, Neo Personality Inventory, Chronic Stress Scale (CSS), Perceived Stress Scale (PSS), Childhood Trauma Questionnaire, Post-Traumatic Stress Disorder Checklist (PTSD), SHAPS, Relationship Scales Questionnaire and Dissociative Events Scale were applied. 14 points from the BDI was accepted as the cut-off value as depressed. Total scores of each scale was used as the dependent variable in the Xgboost (XGB) to classify the depression. By XGB, the most important 4 of these surveys and scales were selected to use in the Non-Linear (NL) models such as XGB, Decision Trees (DT), Support Vector Machines (SVM), K-Nearest Neighbor (KNN). Lastly, a linear model as a Logistic Regression (LR) model was also used to compare with the NL algorithms. The success of the models was measured with the Cross Validation method, which is the gold standard in ML.

Results: In the model in which all measurements are used as Independent Variables (IV), the XGB highlighted 4 scale scores: these are CSS, PSS, SHAPS and PTSD. All scale scores were used as IV, both XGB and DT classified depression with a success of 87.5%, while this score increased to 89.6% in both models when 4 prominent scales' scores were used as IV. In the KNN, the classification made with prominent scales increased the success from 83% to 86%. The variance explanation rate of the LR model using 4 prominent scales remained at 58%.

Conclusions: With ML's ability to solve NL relationships and dimensional reduction ability, models in which a large number of variables are input and there is no high correlation between dependent variables and IV can be classified with high success. Also, the success of the models was increased by choosing the most importants of the many IV and the variables that contributed negatively to the model could be excluded. The use of ML can yield promising results in fields such as psychiatry where linear relationships cannot be observed much.

Disclosure of Interest: None Declared

EPP0604

A 28-Day, Randomized, Controlled, Single-Blind, Phase 2 Study in Treatment-Resistant Major Depressive Disorder (TRD) Patients Receiving Intranasal Esketamine Comparing Addition of Almond Therapy TM with Treatment-as-Usual (TAU)

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Introduction: Treatment Resistant Depression (TRD) occurs in up to 30% of patients with Major Depressive Disorder (MDD). New treatments are clearly needed and there is a burgeoning interest in novel agents including ketamine. While ketamine in various formulations has been demonstrated to have a robust antidepressant effect there is a lack of evidence-based psychotherapies specifically designed for combination use.

Objectives: We hypothesize that the combination of "Almond TherapyTM" with intranasal ketamine will result in a statistically significantly better outcome as demonstrated by a greater reduction in MADRS scores and/or response rates and/or remission rates in TRD patients compared with those who receive esketamine plus TAU. Secondary outcome measures include PHQ-9, GAD-7, PCL-5, Asssessment of Quality of Life - 8D (AQOL-8D), and Rosenberg Self-Esteem Scale.
Methods: We have developed a research protocol combining a unique and specifically-designed, multi-modal psychotherapy program, "Almond TherapyTM", with intranasal esketamine in a randomized, controlled, single-blind 28-day study. The therapy utilizes an individualized, evidence-informed approach for each participant consisting of a number of modules selected using a shared decision-making process determined at the first study visit. This uniquely tailored approach ensures that the chosen modules are personally meaningful to the participant, and thus, promotes therapeutic adherence. The proprietary therapy combines elements of cognitive behavioral therapy (CBT), trauma focused-CBT, Dialectical Behavioral Therapy (DBT), and mindfulness, together with biofeedback. In addition to in-clinic sessions, participants also receive standardized remote therapy sessions by trained therapists.
Results: Patient recruitment and enrolment has begun. Interim results are anticipated.
Conclusions: This study is the first examination of the potential additional clinical benefit of adding a specific therapy program to existing intranasal esketamine treatment. If demonstrated to be of clinical benefit then further studies may potentially provide comparison to other therapy programs and in conjunction with other agents.

Disclosure of Interest: P. Chue Shareolder of: Zylorion, P. Silverstone Shareolder of: Zylorion, Employee of: Zylorion, T. Hillier Shareolder of: Zylorion, Employee of: Zylorion, S. Rizvi: None Declared, S. Phillips Shareolder of: Zylorion, Employee of: Zylorion, L.-A. Langkaas Employee of: Zylorion, K. Davidson Employee of: Zylorion, M. Brown: None Declared, J. Chue: None Declared

EPP0605

Linked patterns of symptoms and cognition with brain controllability in major depressive disorder

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Introduction: Major depressive disorder (MDD) is characterized by both clinical symptoms and cognitive deficits. Prior studies have typically examined either symptoms or cognition correlated with brain measures, thus causing a notable paucity of stable brain markers that capture the full characteristics of MDD. Brain controllability derived from newly proposed brain model integrating both metabolism (energy cost) and dynamics from a control perspective has been considered as a sensitive biomarker for characterizing brain function. Thus, identifying such a biomarker of controllability related to both symptoms and cognition may provide a promising state monitor of MDD.
Objectives: To assess the associations between two multidimensional clinical (symptoms and cognition) and brain controllability data of MDD in an integrative model.
Methods: Sparse canonical correlation analysis (sCCA) was used to investigate the association between brain controllability at a network level and both clinical symptoms and cognition in 99 first-episode medication-naïve patients with MDD. The potential mediation effect of cognition on relationship between controllability and symptoms was also tested.
Results: Average controllability was significantly correlated with both symptoms and cognition (r_{mean}=0.54, $P_{Bonferroni}$=0.03). Average controllability of dorsal attention network (DAN) (r=0.46) and visual network (r=0.29) had the highest correlation with both symptoms and cognition. Among clinical variables, depressed mood (r=-0.23) , suicide(r=-0.25), work and activities(r=-0.27), gastrointestinal symptoms (r=-0.25) were significantly negatively associated with average controllability, while cognitive flexibility (r=0.29) was most strongly positively correlated with average controllability. Additionally, cognitive flexibility fully mediated the association between average controllability of DAN and depressed mood (indirect effect=-0.11, 95% CI [-0.18, -0.04], P=0.001) in MDD.
Conclusions: Brain average controllability was correlated with both clinical symptoms and cognition in first-episode medication-naïve patients with MDD. The results suggest that average controllability of DAN and visual network reached high associations with clinical variates in MDD, thus these brain features may serve as stable biomarkers to control the brain functional states transitions to be relevant to cognitions deficits and clinical symptoms of MDD. Additionally, altered average controllability of DAN in patients could induce impairment of cognitive flexibility, and thus cause severe depressed mood, indicating that controllability of DAN may be a potential intervention target for alleviating depressed mood through improving cognitive flexibility in MDD.

Disclosure of Interest: None Declared

Eating Disorders 01

EPP0606

The medical consequences of eating disorders: the correlation between the severity of the disease and the degree of the cardiological changes in paediatric patients with anorexia nervosa

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Introduction: Anorexia nervosa (AN) is associated with several medical complications. The cardiac changes represent the most severe complications and are associated with higher mortality. For this reason, periodic evaluation is necessary, by ECG and echocardiography. Moreover, there is not a protocol that defines the timelines or how to select higher risk patients that must be evaluated more frequently.