Evidences suggest that high BDNF serum levels are related to good cognitive functioning(Mora et al., 2019). Results require further explorations. The present pilot study targets to identify the neuro-biological correlates of response, investigating the potential neuro-protective role of the FR.

Objectives: Assess the effectiveness of FR in ameliorate cognitive deficits measured with BAC-A and psychosocial functioning with FAST, in modifying BDNF levels in a sample of euthymic patients with BD, compared to standard treatment.

Methods: Two arms(1:1)randomized, rater-blinded, controlled study of 30out-patients with BD-I and BD-II, according to DSM-5 criteria. Patients between 18 and 55 years in euthymic phase. Neurocognitive and clinical assessments, at the same times, serum assessment of BDNF levels will be performed.

All patients will be assessed at baseline(T0), at the end of treatment(T1) and at the 3-month follow-up(T2).

Results: After treatment, patients receiving FR show better cognitive and psychosocial performance than those receiving TAU.

Conclusions: Given the important role of neutrophins in the pathogenesis of BD, identifying BD-specific biomarkers would contribute to understand the underlying neuro-pathophysiological processes and to personalize treatments.

Disclosure: No significant relationships.
Keywords: Functional Remediation; bipolar disorder; NEUROTROPHICS CORRELATES; bdnf

EPP0286

The TIMEBASE Study: IdenTifying dIgital bioMarkers of illnEss activity in BipolAr diSordEr. Preliminary results.

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Introduction: Mood episodes in bipolar disorder (BD) are still identified with subjective retrospective reports and scales. Digital biomarkers, such as actigraphy, heart rate variability, or Electro-Dermal activity (EDA) have demonstrated their potential to objectively capture illness activity.

Objectives: To identify physiological digital signatures of illness activity during acute episodes of BD compared to euthymia and healthy controls (HC) using a novel wearable device (Empatica´s E4).

Methods: A pragmatic exploratory study. The sample will include 3 independent groups totalizing 60 individuals: 36 BD inpatients admitted due to severe acute episodes of mania (N=12), depression (N=12), and mixed features (N=12), will wear the E4-device at four timepoints: the acute phase (T0), treatment response (T1), symptoms remission (T2) and during euthymia (T3; outpatient follow-up). 12 BD euthymic outpatients and 12 HC will be asked to wear the E4-device once. Data pre-processing included average down-sampling, channel time-alignment in 2D segments, 3D-array stacking of segments, and random shuffling for training/validation sets. Finally, machine learning algorithms will be applied.

Results: A total of 10 patients and 5 HC have been recruited so far. The preliminary results follow the first differences between the physiological digital biomarkers between manic and depressive episodes. 3 fully connected layers with 32 hidden units, ectified linear activation function (ReLU) activation, 25% dropout rate, significantly differentiated a manic from a depressive episode at different timepoints (T0, T1, T2).

Conclusions: New wearables technologies might provide objective decision-support parameters based on digital signatures of symptoms that would allow tailored treatments and early identification of symptoms.

Disclosure: No significant relationships.
Keywords: bipolar disorder; wearable; digital biomarker

EPP0287

Biological determinants of functioning in euthymic patients with Bipolar Disorder: A multicentric 3-year cohort study

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Introduction: Bipolar disorder is related with functional impairment in euthymia. The contribution of biological functions such as sleep, sexual functioning; or the presence of obesity on this loss remain understudied.

Objectives: The aim of this work was to study the influence of biological determinants in context with clinical and demographical determinants of functioning in a 3-year cohort of euthymic BD patients.

Methods: In this multicentric study 67 euthymic adult bipolar outpatients were followed during three years. Functioning was assessed with FAST, insomnia severity with Oviedo Sleep

Questionnaire (OSQ) and, sexual functioning with Changes on Sexual Functioning Questionnaire (CSFQ-14) and obesity was expressed as body mass index (BMI). The basal effect of sleep, sexual functioning and obesity (Time 0) on FAST (Time 3) was analyzed with a mixed ordinal regression model including time effect, age, sex, number of manic and depressive episodes, euthymia length, and comorbidity with personality disorder. Change in functioning (Time 3 to 0) was analyzed in another mixed model also considering the difference in biological determinants (Time 3 to 0) and the presence of mood episodes during the period.

Results: A basal worse sexual functioning, a higher severity of insomnia and a higher BMI predicted a worse functioning at three years (p=0.005, p=0.043, p=0.05 respectively). Regarding FAST difference from Time0 to 3, only having a manic episode related to an impairment on functioning (p=0.027).

Conclusions: Sexual functioning, quality of sleep and BMI are predictors of functioning in euthymia in BD. Manic episodes in the following contribute to impairments on functioning more than depressive episodes.

Disclosure: No significant relationships.
Keywords: bipolar disorder; Sexual functioning; sleep; functioning

EPP0288

The Pandemic's Impact on Patients with Bipolar Affective Disorder in a Non-COVID Medical Unit

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Introduction: Bipolar disorder or manic-depressive illness is a mental disorder which consists of abnormal and long-lasting changes in a person's mood, energy, and ability to function. The ongoing COVID-19 pandemic restrictions precipitate the condition of those with bipolar affective disorder.

Objectives: We searched for significant differences before and during the pandemic by analyzing socio-demographic data.

Methods: We carried out a research activity at the I Psychiatry Clinic of the Clinical Hospital of Neuropsychiatry Craiova. We formed two groups of hospitalized patients during 2019 and during 2020, when the pandemic broke out. The inclusion criterion was the presence of bipolar affective disorder as a primary diagnosis.

Results: The number of cases and the total number of hospitalization days was higher during the pandemic, 101 cases versus 94 cases, 1667 days versus 1184 days. We identified a predominance of females during the pandemic, whereas in the previous year the distribution by sex was approximately equal. Regarding environment, the number of patients from urban and rural areas was approximately equal in 2019, while during the pandemic those in urban areas predominated, possibly due to easier access to psychiatric services. The ages of patients maintained a Gaussian distribution with a concentration of cases between 35-55 years.

Conclusions: While other psychiatric disorders were less present in the clinic during the pandemic, the number of bipolar affective disorder cases increased. Bipolar affective disorder is a major challenge due to the wide range of symptoms which cross with comorbidities that increase the likelihood of a SARS-CoV-2 infection.

Disclosure: No significant relationships.
Keywords: BIPOLAR; noncovid; pandemy; Impact

EPP0289

Physiological strength of lipoic acid in copper intoxication

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Introduction: The average concentration of copper in the air, e.g. in the USA it ranges from 5–20 ng/m3, in soil from 5–70 mg/kg, and the intake of copper from food is 1.0–1.3 mg/days for adults (0.014–0.019 mg/kg/day) (Barceloux, 1999). The effect of lipoic acid is reflected in the intensification of ATP synthesis, participates in the assimilation of lactic acid, activates the enzyme cycle of tricarboxylic acid, stimulates the growth of lactic acid bacteria by replacing acetate (acetate transfer factor), stimulates CoA synthesis (fatty acid utilization), prevents liver damage by various toxins, normalizes aldolase and transferase levels.

Objectives: The aim of this study is to show the useful role of a supplement, lipoic acid, as an antioxidant in the prevention of oxidative stress.

Methods: All procedures were performed after anesthesia of albino rats with ketal in accordance with the principles of sacrifice in laboratories. After medial laparotomy albino rates Wistar soy, a 10% homogenate of brain tissue was made in an appropriate medium and an analysis of acid and alkaline DNase activity was performed (Kocić i sar., 2004).

Results: DNases are thought to be the main executors of apoptosis, responsible for internucleosomal DNA fragmentation, which is the breakdown of chromosomal DNA into oligonucleosome-sized fragments. Administration of lipoic acid has been shown to protect against oxidative stress caused by copper.

Conclusions: Based on the results of this research, it can be concluded that lipoic acid is a powerful and powerful antioxidant.

Disclosure: No significant relationships.
Keywords: Lipoic acid; copper; intoxication

EPP0290

Bipolar disorders and suicide: stumbling twice with the same stone?

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