

adverse effects, 12.05% of sessions experienced nausea, 2.52% had an episode of vomiting, 3.35% had a headache, and seven sessions experienced dizziness. The incidence of adverse events was not significantly associated with past psychedelic experiences ($X^2 = 0.0543$, p -value = 0.8157), nor past psychiatric diagnosis ($X^2 = 0.0109$, p -value = 0.917). There was no significant association between administration route and incidence of nausea, which was the most common side effect ($X^2 = 1.112$, p -value = 0.2916). Male gender was also significantly associated with lower incidence of nausea ($X^2 = 4.2841$, p -value = 0.03847).

Conclusions: The group therapy model described provides a comprehensive approach and presents a promising model for operating a KaT program outside of a clinical trial setting. These findings suggest good safety and acceptability for RTT-KaT among individuals seeking treatment for mental health issues. Majority of participants did not experience adverse reactions and the adverse events that were recorded involved transient symptoms that were resolved with rest and/or medications.

Disclosure of Interest: None Declared

EPP0990

Basal and LPS-stimulated inflammatory markers and the course of depression and anxiety symptoms

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Introduction: Multiple studies show an association between inflammation –characterized by increased blood levels of C-reactive protein (CRP) and pro-inflammatory cytokines– and major depressive disorder (MDD). People with chronic low-grade inflammation may be at an increased risk of MDD, often in the form of sickness behaviors. A cross-sectional relationship between low-grade inflammation and anxiety has also been reported, but the potential longitudinal relationship has been less well studied.

Objectives: We aimed to examine whether basal and lipopolysaccharide (LPS-)induced levels of inflammatory markers are associated with depressive and anxiety symptom severity over the course of nine years. We hypothesized that inflammation is predictive of the severity and the course of a subset of symptoms, especially symptoms that overlap with sickness behavior, such as anhedonia, anorexia, low concentration, low energy, loss of libido, psychomotor slowness, irritability, and malaise.

Methods: We tested the association between basal and lipopolysaccharide (LPS-)induced inflammatory markers with individual depressive symptoms (measured using the Inventory of Depressive Symptomatology Self-Report) and anxiety symptoms (measured with the Beck's Anxiety Inventory; BAI, Fear Questionnaire; FQ and Penn's State Worry Questionnaire; PSWQ) over a period of up to 9 years using multivariate-adjusted mixed models in 1147 to 2872 Netherlands Study of Depression and Anxiety (NESDA) participants.

Results: At baseline, participants were on average 42.2 years old, 66.5% were women, and 53.9% had a current mood or anxiety disorder. We found that basal and LPS-stimulated inflammatory markers were more strongly associated with sickness behavior symptoms at up to 9-year follow up compared to non-sickness behavior symptoms of depression. However, we also found

significant associations with some symptoms that are not typical of sickness behavior (e.g., sympathetic arousal among others). The associations between inflammation and anxiety symptoms were attenuated by 25%-30% after adjusting for the presence of (comorbid) major depressive disorder (MDD), but remained statistically significant.

Conclusions: Inflammation was not related to depression as a unified syndrome but rather to the presence and the course of specific MDD symptoms, of which the majority were related to sickness behavior. With regard to anxiety symptoms, we found that participants with high levels of inflammatory markers have on average high levels of anxiety consisting of physical arousal and agoraphobia, which tended to persist over a period of nine years, albeit with small effect sizes. These associations were partly driven by co-morbid depression. Anti-inflammatory strategies should be tested in the subgroup of MDD patients who report depressive symptoms related to sickness behavior.

Disclosure of Interest: None Declared

EPP0991

Resting State Functional Connectivity is Associated With Treatment Response in Major Depression: A Real World Study

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Introduction: Major depressive disorder (MDD) is largely considered the most prevalent psychiatric disorder worldwide. Despite its domineering presence, effective treatment for many individuals remains elusive. Investigation into relevant biological markers, specifically neuroimaging correlates, of MDD and treatment response have gained traction in recent years; however, findings are still inconsistent.

Objectives: In this study, we aimed to investigate the resting state functional connectivity patterns associated with treatment response in MDD inpatients in a real world setting.

Methods: Forty-three inpatients suffering from a major depressive episode were recruited from the psychiatric ward at IRCCS San Raffaele Hospital in Milan, Italy. Symptom severity was assessed via the 21-item Hamilton Depression Rating Scale (HDRS). The percentage of decrease in HDRS scores from admission to discharge was then calculated with the formula [(HDRS admission – HDRS discharge) * 100] / HDRS admission. All patients underwent a 3T MRI scan within one week of admission to acquire resting-state fMRI images, which included 200 sequential T2*-weighted volumes. Images were preprocessed using the CONN toolbox, running within Statistical Parametric Mapping (SPM 12). Preprocessing was performed according to a standard pipeline. A voxel-wise metric, intrinsic connectivity contrast (ICC), was implemented to explore the global resting state functional connectivity (rs-FC) patterns associated with treatment response. ICC-derived maps were then entered in the second-level analyses to examine the effect of the percentage of HDRS decrease, including age, sex, admission HDRS

score, duration of hospitalization, and antidepressant dose equivalents as nuisance covariates.

Results: We found that the percentage of HDRS decrease after treatment predicted rs-FC. ICC analysis identified 2 clusters where changes in HDRS scores were significantly associated with rs-FC, with increased connectivity in the supramarginal gyrus (pFDR = 0.002) and decreased connectivity in the amygdala and parahippocampal gyrus (pFDR = 0.047).

Conclusions: Our results suggest that altered connectivity of the supramarginal gyrus, amygdala and parahippocampal gyrus is related to antidepressant treatment response. Given that these brain areas are implicated in emotional processing and mood, it is conceivable that a better integrity of brain connectivity may facilitate treatment response in major depression.

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EPP0992

The efficacy psychobiotics for depression treatment

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Introduction: Psychobiotics are a group of probiotics that affect the central nervous system related functions and behaviors mediated by the gut-brain-axis via immune, humoral, neural, and metabolic pathways to improve not only the gastrointestinal function but also the antidepressant and anxiolytic capacity.

Objectives: To assess the efficacy the combination of selective serotonin reuptake inhibitors antidepressants (SSRI) and probiotic supplement containing *Lactobacillus Plantarum* CECT7485 and *Lactobacillus Brevis* CECT7480 (PLANTARUM) in patients with mild-to-moderate depression.

Methods: Sixty patients with mild-to-moderate depression (according to ICD-10 diagnostic criteria for mixed anxiety and depression disorder, F41.2) were included in an 8-week open label study. Thirty participants received either SSRI antidepressants with PLANTARUM at a dose of 1.0×10^9 CFU once per day. Thirty patients received SSRI antidepressants only without probiotics intake. The severity of depressive symptoms was assessed using Hamilton Depressive Rating Scale (HDRS) and Patient Health Questionnaire (PHQ-9).

Results: After 8 weeks intervention, a clinically significant reduction of HDRS total score (from $45,6 \pm 6,1$ to $22,5 \pm 3,7$) was detected in patients with mild-to-moderate depression who received SSRI antidepressants and PLANTARUM ($p < 0,001$), compared with participants who didn't receive probiotics ($p > 0,05$). A significant reduction of PHQ-9 total score (from $19,3 \pm 2,9$ to $9,0 \pm 1,9$) was identified in patients with mild-to-moderate depression who received SSRI antidepressants and PLANTARUM ($p < 0,05$). However, the participants received SSRI antidepressant only didn't meet a clinically significant reduction depressive symptoms ($p > 0,05$) by PHQ-9 scale.

Conclusions: The combination use of SSRI antidepressants and probiotic supplement PLANTARUM significantly reduced the depressive symptoms.

Disclosure of Interest: None Declared

EPP0993

MicroRNA Regulates Early-Life Stress-Induced Depressive Behavior via Serotonin Signaling in a Sex-Dependent Manner

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Introduction: The underlying neurobiology of early-life stress (ELS)-induced major depressive disorder (MDD) is not clearly understood. miRNAs, a subclass of noncoding RNAs, are estimated to regulate 20-90% of genes in the genome. Previous studies identify differences in miRNA expression following MDD and ELS, but there is limited research on a direct link between changes in serotonin signaling and miRNAs in response to ELS.

Objectives: In this study, we used MS and environmental enrichment to study serotonin signaling in the PFC and its regulation by miRNAs. Because women are more likely to develop MDD, but there is no strong evidence of sex differences in the experience of ELS, we were interested to test for sex differences. We hypothesized that genes in the serotonin signaling pathway would be altered by ELS and potentially recovered by enrichment.

Methods: We used maternal separation (MS) as a rodent model of ELS and tested whether microRNAs (miRNAs) target serotonin genes to regulate ELS-induced depression-like behavior and whether this effect is sex dependent. We also examined whether environmental enrichment prevents susceptibility to depression- and anxiety-like behavior following MS and whether enrichment effects are mediated through serotonin genes and their corresponding miRNAs.

Results: MS decreased sucrose preference, which was reversed by enrichment. Males also exhibited greater changes in forced swim climbing and escape latency tests only following enrichment. *Slc6a4* and *Htr1a* were upregulated in the frontal cortex following MS. In male MS rats, enrichment slightly reversed *Htr1a* expression to levels similar to control rats. miR-200a-3p and miR-322-5p, which target *SLC6A4*, were decreased by MS, but not significantly. An *HTR1A*-targeting miRNA, miR-320-5p, was also downregulated by MS and showed slight reversal by enrichment in male animals. miR-320-5p targeting of *Htr1a* was validated in vitro using SHSY neuroblastoma cell lines.

Conclusions: Altogether, this study implicates miRNA interaction with the serotonin pathway in ELS-induced susceptibility to depression-related reward deficits. Furthermore, because of its recovery by enrichment in males, miR-320 may represent a viable sex-specific target for reward-related deficits in major depressive disorder.

Disclosure of Interest: None Declared