EPP0256

Epigenetic mechanisms and stress coping in mood disorders

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Introduction: Experimental data from both clinical and preclinical studies have unequivocally shown positive correlations between stress and depression, stress, depression and epigenetic changes.
Objectives: The aim of this research is to analyze clinical trials on coping mechanisms and their interaction with epigenetic mechanisms in patients with mood disorders. Generally, we studied the interaction between these two mechanisms and its effects on the onset, recurrence and progression of these disorders.
Methods: 109 articles were analyzed, of which 37 were considered relevant. 72 studies were excluded based on titles and abstracts. Regarding the coping mechanisms, 10 longitudinal and cross-sectional studies were selected. Longitudinal studies are defined here by a follow-up period longer than 6 months.
Results: There is a consistent association in the literature between the degree of methylation of the NR3C1 gene, stress and affectivity disorders. The analyzed studies showed that methylation of the NR3C1 gene is associated with both stress and mood disorders. FKBP5 influences glucocorticoid receptor sensitivity and stress response. SLC6A4 gene methylation has been systematically associated with stress and affectivity disorders. Higher BDNF methylation has also been found in people who report high levels of stress at work. The data collected suggest that SKA2 methylation may serve as a biomarker for certain features of depression, such as suicidal ideation, and is not directly involved in the etiology of mood disorders.
Conclusions: The results suggest that environmental stress and adversity in early childhood may change biological systems through epigenetic mechanisms and have long-term consequences, increasing the risk for unfavorable prognosis of mood disorders.

Disclosure: No significant relationships.
Keywords: mood disorders; stress; coping; epigenetic

EPP0257

The association between social support and antenatal depressive and anxiety symptoms among Australian women

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Introduction: Antenatal depression and antenatal anxiety adversely affect several obstetric and foetal outcomes, and increase the rate of postnatal mental illness. Thus, to tackle these challenges the need for social support during pregnancy is vital.
Objectives: This study examined the association between domains of social support and antenatal depressive and anxiety symptoms among Australian women.
Methods: Our study used data obtained from the 1973–78 cohort of the Australian Longitudinal Study on Women's Health (ALSWH), focusing upon women who reported being pregnant (n=493). Depression and anxiety were assessed using the Center for Epidemiological Studies Depression (CES-D-10) scale, and the 9-item Goldberg Anxiety and Depression scale (GADS) respectively. The 19 item-Medical Outcomes Study Social Support index (MOSS) was used to assess social support. A binary logistic regression model was used to examine the associations between domains of social support and antenatal depressive and anxiety symptoms.
Results: After adjusting for potential confounders, our study found that the odds of antenatal depressive symptoms was about four and threefold higher among pregnant women who reported low emotional/informational support (AOR=4.75; 95% CI: 1.45, 15.66; p=0.010) and low social support (overall support) (AOR: 3.26, 95%CI: 1.05, 10.10, p=0.040) respectively compared with their counterpart. In addition, the odds of antenatal anxiety symptoms was seven times higher among pregnant women who reported low affectionate support/positive social interaction (AOR=7.43; 95% CI: 1.75, 31.55; p=0.006).
Conclusions: Low emotional support and low affectionate support have a significant association with antenatal depressive and anxiety symptoms respectively. As such, targeted screening of expectant women for social support is essential.

Disclosure: No significant relationships.
Keywords: Pregnancy; social support; anxiety symptoms; depressive symptoms

EPP0259

The association between long term intake of ultra-processed foods and recurrence of depressive symptoms in the Whitehall II cohort

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Introduction: High amounts of Ultra-Processed Foods (UPF) characterized Western type diet and have recently been associated with adverse cardio-metabolic outcomes. The extent to which UPF intakes affect Depressive Symptoms (DepS) in non-Mediterranean countries remains uninvestigated.
Objectives: We aimed to study whether long-term intake of UPF over adult life 1) is associated with subsequent recurrence of DepS assessed over 13 years of follow-up and 2) contribute to explain the diet quality-DepS associations already established.

Methods: Data came from the 4554 participants (mean age=61.0 (SD=5.9) years; 74% men) from the Whitehall II Study who underwent repeated dietary intake assessment (food frequency questionnaire in 1991-1993, 1997-1999 and 2002-2004), and follow-up for recurrence of DepS (CES-D ≥ 16 or use of antidepressants) over 13 years (2002-2004 and 2015-2016). The NOVA classification was used to estimate UPF intakes.

Results: Over 13 years of follow-up, 12.9% of participants reported having recurrence of DepS. Results of logistic regression models adjusted for potential confounders showed that high amounts of UPF intakes (top quintile versus the four last ones) increased the odds of recurrent DepS by 30 % (95%CI 1.05 - 1.61). Additional analyses suggested that UPF intakes did not attenuate much the overall diet quality–DepS association previously reported.

Conclusions: Our study showed that long term exposure to high UPF intakes increased odds of subsequent recurrent DepS. This association was independent of overall diet quality. Further research is needed to understand the underlying mechanisms between food processing and depression physiopathology.

Disclosure: No significant relationships.
Keywords: depressive symptoms; Prospective study; Ultra-processed foods; diet

EPP0260

Impact of temperament on mental illness stigma among medical students.

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Introduction: Mental illness stigma is the most significant obstacle impeding the wellbeing of individuals with such conditions. Thus, research on determinants of mental illness stigma may be of crucial importance in avoiding these attitudes. Affective temperaments are thought to be present in up to 20% of the healthy general population. However, there are very few studies addressing the relationship between temperament and mental health-related stigma.

Objectives: Evaluate attitudes and behavioral responses of medical students towards individuals with a mental illness. Explore factors associated with stigma including temperament.

Methods: A cross-sectional study was conducted among students in medical universities.

All participants were invited to complete a brief anonymous electronic survey administered on the google forms online platform.

Data were collected using self-administered questionnaires, Stigma Measurement, Mental Illness: Clinicians' Attitudes (MICA). Students were also asked to complete the TEMPS-A Scale.

Results: The sample consisted of 1028 respondents (9.3% of the total population). Females represented 78,3% of the study sample. A dominant affective temperament was found in 17% of the cases under study, represented mainly by depressive and irritable temperaments. Bivariate correlations performed to assess the association between temperament and mental illness stigma revealed that a positive relationship was identified between the MICA scale and hyperthymic temperament(p=0,04). There were no significant associations between the other type of temperaments and The MICA scale.

Conclusions: Students' temperament should be considered in developing anti-stigma programs in undergraduate education. Further researches should be undertaken to disentangle the complex relationship among demographic features, personality traits, and attitudes toward people with a mental illness.

Disclosure: No significant relationships.
Keywords: stigma; medical student; temperament

Neuroimaging 01 / Oncology and Psychiatry 02

EPP0261

i-ECO: a novel method for the analysis and visualization of fMRI results in Psychiatry

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Introduction: The high technical barrier to entry in the field of neuroimaging can hinder early insight from promising results and the development of evidence-based clinical practice.

Objectives: The working group focused on published literature in order to develop a new methodology in the analysis, visualization, and representation of fMRI data in the psychiatric setting.

Methods: Three valid and established measures were chosen, in order to achieve dimensionality reduction, stability and explainability of results, namely Regional-Homogeneity; fractional Amplitude of Low-Frequency Fluctuations; Eigenvector-Centrality. Each measure was color coded and individual images per subject compiled, averaging results by functional networks as described the FIND lab of the University of Stanford. 272 individual scans were processed (130 neurotypicals, 50 patients with Schizophrenia, 49 with Bipolar Disorder, 43 with ADHD).

Results: The discriminative power between clinical groups of the novel method was significant both by human eye, and later confirmation by statistical tests, and by computer vision algorithms (Convolutional Neural Networks). The precision-recall Area Under the Curve, dividing by 80/20 proportion between train and test sets, was >84.5% for each group. The group of patients with Bipolar Disorder showed a partial overlap with the group of patients suffering from Schizophrenia – by a dominance of Eigenvector-Centrality and Regional-Homogeneity, as well as a lower prevalence of fractional Amplitude of Low-Frequency Fluctuations, for both in comparison to controls.