

**Disclosure:** No significant relationships.

**Keywords:** Network Analysis; comorbidity; PTSD; Dissociation

O0005

### The role of PACAP/PAC1R in PTSD: effects on fear extinction via the ventromedial hypothalamus

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**Introduction:** The incidence and severity of posttraumatic stress disorder (PTSD) is higher in women than men because of environmental and biological factors. Specific mechanisms in the PACAP-PAC1R (pituitary adenylate cyclase-activating polypeptide and its type I receptor) system may confer PTSD risk in women. Interestingly, while the PACAP (*ADCYAP1*) - PAC1R (*ADCYAP1R1*) system is expressed highly in the hypothalamus, no relationship has been described for this pathway in the hypothalamus with fear processing or in PTSD.

**Objectives:** We studied whether the estrous/menstrual cycle at the moment of trauma predicts PTSD and the involvement of the PACAP neurons in the amygdala and hypothalamus during traumatic stress.

**Methods:** Mice: DREADDs, immunohistochemistry and behavior. Humans: fear-potentiated startle and questionnaires.

**Results:** Here, we show that acute stress immobilization (IMO) produces fear extinction impairments in female mice. Also, IMO elicits *Adcyap1* and *Adcyap1r1* mRNA upregulation in the hypothalamus, PACAP/c-Fos downregulation in the medial amygdala (MeA), and PACAP/FosB/ $\Delta$ FosB upregulation in the ventromedial hypothalamus dorsomedial part (VMHdm) after fear extinction. We also found that women with the risk genotype of *ADCYAP1R1* rs2267735 SNP show impaired fear extinction. In mice, DREADD-mediated inhibition of the MeA neurons projecting to the VMHdm during IMO rescues both PACAP upregulation in VMHdm and the fear extinction impairment. We ruled out contributions from inherent hormonal states showing that the menstrual or estrous cycle phase at the moment of trauma does not result in a vulnerable phenotype.

**Conclusions:** Our data suggest that the PACAP-PAC1R hypothalamic system may be a novel candidate to treat and prevent PTSD symptoms including fear dysregulations.

**Disclosure:** No significant relationships.

**Keywords:** translational; human; mouse; Stress

O0006

### Causal determinants of complex PTSD in Syrian refugee children living in informal settlements in Lebanon

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**Introduction:** Displaced refugee children with a history of war exposure are at risk of developing complex and severe forms of post-traumatic stress disorder (PTSD).

**Objectives:** Search for the most relevant causal predictors of complex PTSD in a prospective cohort of Syrian refugee children living in informal settlements in Lebanon (N=1007).

**Methods:** A latent class unsupervised analysis was carried out to determine clusters with complex PTSD presentation at the follow-up assessment. A new exploratory causal discovering modelling approach was applied using 97 multilevel psychosocial variables as predictors (Biazoli et al., 2021). Associations between discovered candidate causal factors assessed at baseline with a presumed diagnosis of complex PTSD one year later were calculated using a multiple logistic regression model.

**Results:** Several putative causal factors emerged: perceived social coherence of the neighbourhood (Positive Predictive Value increase: 1.22); impulsivity (1.25), self-efficacy (1.23) and depressive symptoms (1.15) at the parental level; positive home experiences (1.16) at the family level; and child-level factors such as being forced to work (1.22), being a victim of verbal or physical bullying (1.19), loneliness (1.17) and well-being (1.18). In further confirmatory multiple logistic regression analysis and after correction for multiple comparisons, verbal or physical bullying victimization ( $p=.005$ ) and caregiver depressive symptoms ( $p=.0004$ ) at baseline were associated with complex PTSD presentations one year later.

**Conclusions:** Our results support the need for a multi-level psychosocial care model to prevent psychological distress and promote mental health in refugee children. Specifically, our results suggest that programs tackling caregiver's mental health and children's exposure to violence might effectively prevent complex PTSD.

**Disclosure:** No significant relationships.

**Keywords:** Social Determinants; causal inference; PTSD

O0007

### PTSD symptoms and coping before and during COVID-19 pandemic among help-seeking veterans: prospective cohort study

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**Introduction:** The COVID-19 pandemic has threatened the mental health of individuals around the world. Ex-combatants have been repeatedly shown to be increased risk of experiencing social and psychological problems during emergencies.

**Objectives:** To compare the severity of overall posttraumatic stress disorder (PTSD) symptoms and PTSD clusters among help-seeking veterans before and during the COVID-19 pandemic. The second aim was to identify coping strategies used and track possible changes during the timeline.

**Methods:** Male war veterans receiving outpatient treatment at the Referral Center for PTSD were assessed at baseline (t1=12-18