Podium

**Characterizing Effects of Age and Sex on Cerebral Perfusion of Adolescents Assessed by Magnetic Resonance Arterial Spin Labeling**

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**Background:** Studies have revealed that mood and anxiety disorders are associated with abnormal structural and functional connectivity and often exhibit sex and age differences in prevalence, clinical characteristics, and neuropathology. In this study we examined baseline cerebral blood flow (CBF) in treatment seeking adolescents with mood and anxiety disorders using pseudocontinuous arterial spin labeling (PCASL).

**Purpose:** The purpose of this study was to confirm feasibility in acquiring high quality images as well as to replicate previously reported cross sectional effects of age and biological sex.

**Methods:** Each participant received baseline clinical assessments including mental health and neuroimaging assessments. We will investigate the relationship between age and biological sex on mean CBF within GM. Post-hoc ROI analyses will be conducted within limbic regions (i.e., the amygdala, hippocampus, and the anterior division of the cingulate gyrus).

**Results:** A total of 154 treatment-seeking adolescents (11.20-25.27±3.65 years of age, *Mean*=19.01, 117/154 females) were recruited since May, 2021 who are seeking care across multiple programs as part of the CAMH TAY cohort study (taycohort.ca). Results are forthcoming however wehypothesize that correlational analysis will show a significant negative correlation between age and global mean grey matter (GM). We also hypothesize that women will have higher CBF than men in left and right anterior cingulate gyrus.

**Conclusion:** We anticipate that the results of this study will concur with previously reported age and sex effects on CBF and serve as an important biomarker revealing specific patterns that may predict particular symptom profiles and subsequently inform early interventions and treatments for these patients.