Methods: A representative sample originally consisting of 201 first episode psychosis patients from two Norwegian well defined catchment areas in the Scandinavian TIPS study have been followed for more than 20 years with symptom and functional measures. Assessments have taken place at inclusion, one, two, five, ten and twenty years. At the 20-year follow-up, 43% of living participants were retained; 15% had died.
Results: Data analysis is in progress, and symptoms and function results will be presented.

Disclosure of Interest: None Declared

SP052

Brain developmental trajectories in offspring of parents with severe mental illness

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Abstract: Early diagnosis and intervention are essential for managing and improving long-term outcomes of severe mental illness, highlighting the need for reliable early biomarkers. This longitudinal study explores whether there are sex differences in the development of the brain during childhood and adolescence differs between offspring of parents with and without a diagnosis in the mood-psychosis spectrum.
We obtained 286 T1-weighted and diffusion weighted MRI scans of 184 offspring (aged 8–18 years at baseline) of at least one parent diagnosed with bipolar disorder (n=78) or schizophrenia (n=52) and offspring of parents without severe mental illness (n=54); 102 offspring underwent a follow-up scan (on average 3.9 years between scans). Global brain measures, regional cortical thickness and surface area, gyrification and sulcul morphology were computed. Anatomical brain networks were reconstructed into structural connectivity matrices. Network analysis was performed to investigate anatomical brain connectivity. Group comparisons and the interaction with age were analysed with (non)linear mixed-effects models. Explorative analyses will be done on the interaction with sex. To correct for multiple comparisons, we applied a Benjamini-Hochberg false discovery rate (FDR) correction (q=0.05).
A significant effect of age was found on most of the included brain features, with suggestive evidence for subtle deviations in trajectories in the cortical thickness and network metrics, but not in the gyrification index and sulcul morpholoy in offspring of parents with schizophrenia. Sex effects will be discussed during the meeting. Our findings suggest the brain development in familial high-risk youngsters is associated with being at familial risk for schizophrenia.

Disclosure of Interest: None Declared

SP053

Integrating Biological Sex in Precision Psychiatry: The advantage of Using Machine Learning for Personalized Care

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Abstract: Sex differences in psychiatric disorders are well-documented, yet clinical diagnoses remain primarily symptom-based, overlooking underlying neurobiological distinctions. Despite evidence of sex-specific symptomatology leading to similar diagnostic labels, treatment paradigms often follow a one-size-fits-all approach, contributing to misdiagnosis, suboptimal treatment, and delayed functional recovery. Women, in particular, are disproportionately affected, as psychiatric research has historically prioritized male cohorts to control for hormonal fluctuations and reproductive events (e.g., menarche, pregnancy, menopause), resulting in a gap in sex-specific interventions.
With the advancement of precision psychiatry, integrating sex-informed, multimodal approaches into clinical decision-making is imperative. Machine learning (ML) provides a promising avenue for improving diagnostic accuracy and individualized risk prediction, moving beyond conventional categorical diagnoses.
Here I will highlight findings from two studies leveraging ML to analyze sex-related neuroanatomical patterns:

Neuroanatomical Sex Differences in Early-Phase Psychiatric Disorders – Investigating grey matter volume alterations in individuals at clinical high risk for psychosis (CHR), recent-onset psychosis (ROP), and recent-onset depression (ROD) using a Support Vector Machine (SVM) model.
Sex Differences and Neuroanatomical Classification in Transgender Individuals – Exploring whether ML classifiers trained on cisgender populations accurately reflect neurobiological patterns in transgender individuals, considering sex assigned at birth, gender identity, and hormone therapy.

This research does not seek to exclude individuals with Differences in Sex Development (DSD) but rather aims to establish biological sex as a critical, yet underutilized, variable in psychiatric research. Recognizing sex-specific neurobiological mechanisms is a necessary step toward developing targeted risk calculators (e.g., for postpartum depression, suicide risk) and advancing personalized mental health interventions. By refining ML-based models and integrating sex-informed frameworks, this work contributes to the broader goal of precision psychiatry—tailoring psychiatric care to the diverse biological and psychological realities of individuals.

Disclosure of Interest: None Declared

SP054

Interplay among sex, environment, and heart-brain function in the onset of psychiatric disorders

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