Results: Initiation of search – latency of the first saccade on the search grid – was typical in all participants except those with SCZ, who had significantly higher intra-subject variability (ISV) than both TD and ADHD, but no delay in initiating search. Within search, ASD manifested significantly reduced mean and ISV of total search duration – between the first saccade on the grid and the last fixation on target – and of the first part of search – between the first saccade on the grid and the first fixation on target – in comparison with all other groups, including TD. Conversely, SCZ and ASD were significantly more variable than TD and ADHD regarding the duration of first fixation on target, while also being, to a lesser extent, slower than ADHD but not than TD. Additionally, SCZ needed a higher frequency of fixations on target than ASD, but not compared to ADHD or TD, before making a decision. In the post-search phase – between the onset of the last fixation on target and the button press on the keyboard – SCZ were the slowest and most variable group, followed by ASD and ADHD who differed non-significantly from controls. The overall search performance – between trial onset and button press – resulted in typical manual mean RT in ASD and ADHD while being atypically longer in SCZ, compared to all other groups. Compared to TD, ISV was at par in ADHD, lower in ASD, and higher in SCZ.

Discussion: Results suggest that the ability to extract individual targets is intact in ASD and ADHD. However, ASD only show a bias toward local information, as indicated by more variable first fixation duration, despite intact global processing. By contrast, lower search efficiency in SCZ might be explained by both (a) abnormal global processing due to impairment in the guidance mechanisms that affect the time until the first fixation on target, and (b) a deficit in central discrimination, with resulting difficulties in extracting critical features of the target.

M80. ALTERATIONS IN TEMPORAL PROCESSING AFFECT SCHIZOPHRENIA AND BIPOLAR PATIENTS AT DIFFERENT TEMPORAL SCALES

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Background: Previous work suggested that patients with Schizophrenia (SZ) and Bipolar disorder (BP) both show anomalies in temporal cognition, although at different temporal scales. Recent results suggest disruptions in the processing of sensory information in time in SZ at the sub-second scale, including temporal order processing (100s ms). On the other hand, BP patients often report tachypsychia or racing thoughts, a subjective acceleration in the production of thoughts, which points towards temporal anomalies at the (supra-)second scale.

Methods: To further investigate the proposed temporal abnormalities which differentially affect the two groups, 11 SZ patients, 14 BP patients and 21 healthy controls (HC) performed two tasks. First, subjects’ ability at ordering events in time was evaluated in a Temporal Order Judgment task. Participants were presented two squares separated by either a sub-threshold 17ms or a supra-threshold 100 ms asynchrony, or two squares appearing simultaneously on a computer screen. They were instructed to respond, by clicking on one of two response-buttons, to the side of the first appearance of the figure. The rate of “manual windows” was significantly higher in BP patients compared to HC and SZ patients, with decreased “ocular window” duration in BP patients compared to HC. The rate of “ocular windows” increased mainly in the “Focus” condition.

Discussion: The findings in the Temporal Order Judgment task replicate results in the literature showing an impaired temporal order processing in SZ patients for supra-threshold asynchronies at the scale of 100s ms. The results of the Necker cube task suggest that BP patients cannot help oscillating between the two interpretations of the Necker cube. Complementary results obtained in a larger group of BP patients suggest a link with tachypsychia. Our present results support the idea that temporal cognition is altered in both SZ and BP patients but at different temporal scales.

M81. IQ DIFFERENCES BETWEEN PATIENTS WITH FIRST EPISODE PSYCHOSIS IN LONDON AND PALERMO REFLECT DIFFERENCES IN PATTERNS OF CANNABIS USE

Abstract not included.

M82. GROWING BURDEN OF DISEASE: THE PREVALENCE OF CHRONIC HEALTH CONDITIONS AFTER A FIRST EPISODE OF PSYCHOSIS

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Background: Over 12% of Canadians live with two or more (2+) co-occurring chronic physical health conditions or multimorbidity. This proportion is expected to rise with increasing exposure to risk factors for these diseases. People with psychotic disorders often have co-occurring chronic physical health conditions; however, to date there has been a paucity of research on the prevalence of multimorbidity among people with psychosis. The objective of our study was to examine the prevalence of multimorbidity ten years after a first episode of psychosis (FEP) utilizing data from a retrospective cohort study based on health administrative data.

Methods: The health administrative dataset has been linked to data from the Prevention and Early Intervention Program for Psychoses in London, Canada to enable identification of FEP patients (n=455). FEP patients were compared to a randomly selected comparison group from the general population (n=1,783), matched on age, gender, and neighbourhood. This cohort has been followed for a 10-year period in the health administrative data to ascertain the prevalence of physical comorbidities.

Results: Preliminary analyses on 2,238 patients (557 females, 1,681 males) at 10-year follow-up, reveals that 32.1% (95% CI 28.0%, 36.5%) of FEP patients have 2+ conditions, as compared to 15.1% (95% CI 13.6%, 16.9%) of people without psychosis. Full results on risk factors for multimorbidity will be presented.

Discussion: The findings from this study will facilitate increased surveillance and recognition of the common physical health conditions faced by people with psychosis, including those contributing to premature mortality.
of this patient population. This information aims to assist decision-makers in creating tailored intervention plans to improve the physical health of patients with psychotic disorders, and integrate care across multiple specialties to reduce the growing burden of disease to the Canadian health system.

M83. AUTISTIC TRAITS AS LINKING PIN TO SOCIAL FUNCTIONING IN PSYCHOSIS: A NETWORK APPROACH

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Background: Both psychotic and autistic traits are related to poor social outcome in individuals with psychotic disorders (PD). However, it is unknown how specific trait clusters relate to each other and which are pivotal to social functioning. The aim of the present study was to use a network approach to address this issue and to investigate whether relations are similar in individuals with a familial risk for psychosis (FR) or typical comparisons (TC).

Methods: The total sample consisted of 1413 individuals (504 PD, 572 FR, and 337 TC). Traits were assessed with the Autism Spectrum Quotient (AQ; 5 nodes) and the Community Assessment of Psychic Experiences (CAPE; 9 nodes). Social functioning was measured with the Social Functioning Scale (7 nodes).

Results: Overall our results show that autistic traits are more negatively and closely related to social functioning, particularly in the interpersonal environment, than psychotic traits. These relations are more intrinsically connected for the PD network, as more and stronger connections between nodes were observed than for the FR and TC networks. In addition, the latter two networks appeared strikingly similar with only a few unique relations.

Discussion: Presence of autistic traits generally have a negative effect on social functioning, but in PD they may have a disproportional detrimental effect on psychopathology and levels of social functioning. These findings emphasize the need for increased clinical awareness of autistic comorbidity in psychotic patients to help enrich their daily social environments.

M84. METFORMIN FOR EARLY CO-MORBID PREDIABETES OR DIABETES IN SCHIZOPHRENIA SPECTRUM DISORDERS: A DOUBLE BLIND RANDOMIZED PILOT STUDY

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Background: Patients with severe mental illness (SMI) lose 15–20 years of life due to cardiovascular disease. Much of the metabolic risk, including high rates of type 2 diabetes (T2D) is accrued early on in the illness, highlighting the need for early intervention strategies to target modifiable cardiovascular risk factors. Beyond cardiovascular (CV) risk, metabolic complications have wide-ranging detrimental effects on cognitive performance, medication compliance, and quality of life. There is however an astounding paucity of studies in SMI examining metabolic interventions outside of weight loss. Furthermore, patients with SMI are typically systematically excluded from trials investigating anti-diabetic agents resulting in lack of evidence to guide treatment.

Methods: Thirty participants with schizophrenia spectrum disorders and co-morbid prediabetes or type 2 diabetes were randomly assigned, in a double-blind fashion to 1500mg/ day of metformin or placebo (2:1 ratio; n=21 metformin and n=9 placebo). Patients had to be overweight or obese, within 5 years of psychosis onset or under the age of 40, and receiving a stable dose of antipsychotics. The primary outcome measures were improvements in glycemia (HbA1c, fasting glucose), and insulin resistance index (Matsuda-derived from glucose tolerance tests and the Homeostatic Model Assessment of Insulin Resistance (HOMA-IR)). Secondary outcome measures included changes in weight, fat mass (MRI quantification of hepatic and visceral fat), improvements in cognition, and hippocampal volume (MRI). Data were analyzed using mixed-models methods, and intention to treat analysis.

Results: Twenty-two patients (n=14 metformin; n=8 placebo) completed the 4-month trial. The metformin group had a significant decrease over time in the HOMA-IR (p=0.043), and fasting blood glucose (p=0.007) vs. placebo. There were no differences between treatment groups in the Matsuda index or HbA1c or any secondary outcome measures. Interestingly, weight loss in both groups correlated significantly with decreases in subcutaneous, but not visceral adipose tissue measured by MRI. Controlling for baseline BMI and fasting blood glucose did not change any study findings. Exploratory correlations between change in metabolic indices and change in clinical and cognitive parameters did not reveal any significant associations.

Discussion: Independently of weight loss, metformin is effective in improving dysglycemia and insulin sensitivity in a young, severely mentally ill population at very high risk for early CV mortality. Our preliminary findings, however, fail to find an effect of metformin on weight reduction or tissue specific adiposity measures (which in themselves represent key CV risk factors). Notably, patients in this study had overt glucose dysregulation, a sample routinely excluded in studies examining weight loss interventions in SMI. Moreover, meta-analyses of metformin studies in SMI note greater efficacy early in the illness; possibly weight loss effects are blunted once patients develop prediabetes/T2D. It is also possible that this subgroup of patients may benefit from alternate or combined anti-diabetic/obesity therapies.

In conclusion, our findings support glucose lowering effects of metformin in SMI patients with early onset prediabetes/T2D, but raise the issue of treatment initiation before the development of overt glucose dysregulation to obtain maximum benefits on adiposity reduction. Given the extremely high rates of T2D in patients with SMI, future adequately powered trials are required to examine metabolic interventions in relation to CV risk factors, and also other related domains such as cognitive function in this highly under-researched population.

M85. LIGHT-DARK AND ACTIVITY RHYTHM THERAPY TO IMPROVE SLEEP IN SCHIZOPHRENIA SPECTRUM DISORDERS: EXPERT CONSENSUS, INTERVENTION DEVELOPMENT AND FEASIBILITY TESTING

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Background: Sleep problems are prevalent in schizophrenia spectrum disorders, and include psychophysiological insomnia, and sleep disturbances caused predominantly by circadian dysregulation. Studies using motion sensing wearables (including actigraphy) have shown a diverse range of rest activity patterns, including mis-timed sleep, irregular sleep, or non-24hr