The mediation analysis yielded that depression mediates the relationship between PE and SI (b = .2206, 95% BCa CI [.1783, .2644]). Additionally, network analysis showed the following strength centrality values (SV): depression (mean = 5.92, SD = 1.72; median = 6.08); bizarre experiences (mean = 3.94, SD = 0.35; median = 4.02); perceptual anomalies (mean = 3.75, SD = 0.22; median = 3.75); social anxiety (mean = 3.49, SD = 0.79; median = 3.23); negative symptoms (mean = 3.32, SD = 0.23; median = 3.49). SI was strongly connected to pessimism (SV = .69); social anxiety (SV = .41); and self-criticism/worthlessness (SV = .39). The correlation stability coefficient for the strength was (cor = 0.7) = 0.672, suggesting robustness of the findings.

Discussion: Our findings support prior research showing that DS mediate the relationship between PE and SI and add to this literature by showing which symptoms in particular are important. Some specific depressive symptoms having a central role in this process (pessimism and worthlessness) and also psychotic experiences (social anxiety: being distant to people) and perceptual anomalies (seeing things other cannot) are connected in a meaningful way to suicidal ideation in a community sample of adolescents. These findings should be considered when planning early detection/intervention programs.

O3.4. PSYCHOSIS PHENOTYPES FROM B-SNIP FOR CLINICAL ADVANCES: BIOTYPE CHARACTERISTICS AND TARGETS

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Background: Psychiatry aspires to disease understanding and precision medicine. Biological research supporting such missions in psychosis may be compromised by continued reliance on clinical phenomenology in the search for pathophysiological mechanisms. A transdiagnostic deep phenotyping approach, such as that used by the Bipolar-Schizophrenia Network for Intermediate Phenotypes (B-SNIP), offers a promising strategy for discovery of biological mechanisms underlying psychosis syndromes. The B-SNIP consortium has identified biological subtypes of psychosis, Biotypes, which outperform conventional DSM diagnoses when accounting for variance of multiple external validating measures. While these biological distinctions are scientifically remarkable, their resulting clinical manifestations and potential utility in clinical practice is of paramount importance.

Methods: Approximately 1500 psychosis cases and 450 healthy persons were administered the B-SNIP biomarker battery (including MRI, EEG, ocular motor, and cognition measures). Psychosis cases were also clinically characterized using multiple measures, including MADRS, PANSS, YMRS, and Birchwood. Numerical taxonomy approaches were used for identifying biologically homogenous psychosis subgroups (gap and TWO-STEP cluster identifications, k-means clustering, and canonical discriminant analysis). ANOVA models were used to analyze external validating measures. Multivariate discriminant models were used to identify clinical features differentiating conventional psychosis syndromes and psychosis Biotypes.

Results: There was remarkable similarity between previously published biomarker profiles for DSM psychosis syndromes and a new sample of psychosis cases (average r = .92). Numerical taxonomy on biomarker data recovered three subgroups (replicating previous findings), and the biomarker profiles were highly similar to previous results (average r = .87). Schizoaffective cases were both the most diverse and the most clearly differentiated from schizophrenia and bipolar cases (on conative negative symptoms, depression, and mania) in clinical feature space. The only feature that uniquely distinguished schizophrenia was social-relational negative symptoms. Biotype-1 was characterized by accentuations on clinical features consistent with their biomarker deviations (relational negative symptoms, poor social functioning, and dysfunction of cognition). Alternatively, Biotype-2, also consistent with their biomarker deviations, had clinical features indicating neurophysiological dysregulation (most specifically physiologically and behavioral dysregulation). Biotype-3 cases, the most normal across biomarkers, were noticeably absent of Biotype-1 clinical features and had more restricted clinical manifestations than any other Biotype or DSM subgroup. We illustrate three possible Biotype-specific treatment targets.

Discussion: Replication of B-SNIP psychosis Biotypes indicates the possible utility and importance of neurobiological subtyping within psychosis that can yield specific treatment targets. In an analysis of clinical features, B-SNIP found that Biotypes have unique and defining clinical features that are consistent with their neurobiological profiles. Biotypes and DSM psychosis subgroups are neither neurobiologically nor clinically redundant. Specific treatment targets for psychosis Biotypes are not derivable from conventional clinical psychosis diagnoses. B-SNIP outcomes provide a background for future work that could establish psychiatry as a laboratory discipline, at least with regard to care of psychosis patients. This path is hypothetical at the moment but aspirational for the field.

O3.5. EARLY TRAJECTORIES OF POSITIVE SYMPTOMS REMISSION IN FIRST EPISODE-PSYCHOSIS: A 2-YEAR FOLLOW-UP STUDY

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Background: The Prevention and Early intervention Program for Psychosis (PEPP) provides young people with first episode psychosis (FEP) rapid access to appropriate mental health services designed on the principles of early intervention (EI). We have previously demonstrated high rates of positive symptom (PS) remission. However, the relationship between PS, negative symptoms (NS) and functional outcomes remains unclear. Adherence to medication and early treatment response have been shown to be important independent determinants of the level of, and time to, symptom and functional remission, respectively. While trajectories of symptom severity have been shown to be heterogeneous, no previous study has investigated the prognosis of PS remission among individuals with FEP treated in an EI service. Identification of different trajectories of PS remission is a useful strategy to provide insight into clinically meaningful subgroups of patients while providing valuable information on NS and functioning for improving treatment outcomes.

Methods: The 2-year treatment at PEPP comprises different psychosocial (i.e., cognitive behavioral therapy, group intervention, family intervention, individual placement and support program) and psychopharmacological interventions (i.e., minimum effective dosage of second-generation antipsychotics). Monthly assessments were conducted from baseline to month 24. A total of 387 FEP patients, aged 14–35 years, with DSM IV affective or non-affective psychosis and little or no prior antipsychotic treatment (i.e., < 30 days) were included. PS remission was defined as absence of overt psychotic symptoms (i.e., all global SAPS items ≤ 2). A Latent Class Growth Analysis (LCGA) was used to investigate the distinct trajectories based on cumulative length of PS remission assessed at 3, 6, 9, 12, 15, 18, 21, and 24 months of treatment. Predictors of trajectories were investigated among sociodemographic, pre-treatment, as well as baseline and course clinical characteristics. Chi-square tests, one-way and mixed ANOVAs identified which baseline and longitudinal variables differed between and within trajectories. Candidate predictors that were statistically significant were then entered into a multinomial regression model to determine which factors independently predict trajectory membership.
Results: Three distinct trajectories of PS remission were identified. Excellent (68%), unstable (15%) and poor (17%) trajectory. Trajectories differed at baseline in DUP, diagnosis of affective psychosis and PS severity. Over the 24 months of treatment, negative, depressive, anxiety and mania symptoms, as well as functioning, best improved in the excellent trajectory among which patients were prescribed less antipsychotics in term of chlorpromazine equivalent than patients in other trajectories. Multinomial re-gression of baseline characteristics revealed that absence of early treatment response at 3 months (adjusted OR=2.53; 95%CI=1.24–5.16) independently predicted poorer trajectory.

Discussion: These results highlight the heterogeneous prognosis of PS remission suggesting that the diversity in FEP response and phenotypes may be determined by different pathophysiological underpinnings. The fact that early response was found to be a strong predictor of PS remission supports early and adequate symptom control for which medication is a critical issue. Further research applying data-driven trajectory analysis in FEP is warranted to facilitate better characterization of longer-term patterns of remission and development of targeted intervention to promote early recovery.

O3.6. PREVALENCE OF AND RECOVERY FROM COMMON MENTAL DISORDERS INCLUDING PSYCHOTIC EXPERIENCES

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Background: Systematic reviews indicate that approximately one third of people with at-risk mental states for psychosis (ARMS) will transition to a psychotic disorder. Research in non-specialised services, such as primary care settings, has shown that far fewer make such a conversion. Nonetheless, psychotic experiences (PE) may also be linked to common mental disorders (CMD), particularly depression and anxiety, and still predict poor outcomes. Population studies modelling the co-occurrence of CMD and PE have found an underlying unitary psychopathological factor, with PE emerging towards its more severe end.

We know little about the prevalence of and recovery from PE in primary mental health care, where most CMD are treated. One example of primary mental health care setting in England is the Improving Access to Psychological Therapies (IAPT) programme (https://www.england.nhs.uk/mental-health/adults/iapt/). The IAPT programme provides evidence-based psychological therapies for mild to moderate CMD across the UK National Health Service (NHS). IAPT services adhere to current diagnostic paradigms and, therefore, do not either measure or treat PE. We aimed to establish the prevalence of PE in a large sample of patients with CMD from the IAPT programme and compare recovery rates between patients with CMD and PE (CMD-P) and those without PE.

Methods: We used the Community Assessment of Psychotic Experiences - Positive 15-item Scale (CAPE-P15) to determine the prevalence of PE in patients with CMD receiving treatment from IAPT services across England. We employed the CAPE-P15 threshold score of 1.47, which identifies individuals with ARMS, and also a lower threshold of 1.30, chosen as within one standard error of measurement, in order to explore threshold effects in the association between PE and recovery. Patient-reported measures of depression (PHQ-9) and anxiety (GAD-7) are routinely collected in IAPT services and determine ‘caseness’ before, during and after therapy. Using recovery rates (moving from ‘caseness’ to recovery) monitored nationally in the IAPT programme, we stratified patients according to the absence and presence of PE. Multi-group growth models estimated improvement trajectories for each group.

Results: 2,042 patients with CMD completed the CAPE-P15. The mean age was 39.8. The overall prevalence of CMD-P was 29.68% at CAPE-P15 threshold score for ARMS, i.e. 1.47, and 48.09% at threshold score 1.30.

The overall recovery rate at threshold of 1.47 was 27.87% and 36.3% at 1.30. Recovery rates for those without PE were 58.92% and 62.43% for thresholds 1.47 and 1.30, respectively. Although patients with or without PE shared similar improvement trajectories, the initial severity of patients with CMD-P impeded their likelihood of recovery during treatment.

Discussion: At least one in four patients receiving treatment from IAPT services in primary care experience CMD-P. This significant group of people experience a lower recovery rate, with adverse implications not only for them but also for efficiency of services. Although recovery trajectories for this group showed improvement over therapy sessions, remittance of symptoms was insufficient to meet national IAPT standards of recovery. This patient group is not well-served by current interventions in primary care. This work forms part of a nation-wide NIHR research programme (TYPPEX; https://www.nihr.ac.uk/news/innovative-mental-health-study-launches-eastern-region) aiming to develop innovative therapies for people with CMD-P in primary care. Preliminary results related to feasibility and effectiveness of new therapeutic approaches will also be presented.

O4. Oral Session: Treatment 1

O4.1. AEROBIC EXERCISE DOSE DETERMINES THE COGNITIVE GAIN IN FIRST-EPIPODE SCHIZOPHRENIA, SO HOW DO WE ENCOURAGE SUFFICIENT EXERCISE?

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Background: Increasing evidence supports the benefits of regular aerobic exercise for cognition and functioning in schizophrenia. The extent to which these gains are dependent on the amount of aerobic exercise completed remains unclear, although variability in adherence to intended exercise regiments is evident. Furthermore, strategies for encouraging regular exercise sessions in schizophrenia are only starting to be explored.

Methods: In a randomized controlled trial with 47 first-episode patients with schizophrenia, we contrasted six months of Cognitive Training & Exercise (CT&E) with Cognitive Training (CT) alone. The computerized cognitive training using PositScience BrainHQ and SocialVille programs was provided to all participants, four hours/week at the UCLA clinic for six months. The CT&E group also participated in total body circuit training exercises, with a goal of completing 150 minutes/week. Two of the aerobic exercise sessions were held at the clinic, while the other two were to be completed at home. Intensity of exercise was titrated individually with a heart rate monitor, targeting 60–80% of heart rate reserve. Several incentive strategies to encourage regular exercise were incorporated. Cognitive gain was measured by the MATRICS Consensus Cognitive Battery (MCCB), while the Global Assessment Scale: Role was used to index work/school functioning gain.

Results: Both groups showed cognitive and work/school functioning gains, but the improvements were three times as large when aerobic exercise was added to cognitive training (for MCCB Overall Composite, Mixed Model F = 7.19, p<.02, effect size Cohen’s f = 0.43). The magnitude of cognitive improvement among the CT&E patients differed substantially, so predictors of the cognitive gain were sought. The CT&E patients completed a mean of 85% of their in-clinic aerobic exercise sessions, compared to an average of 39% of their home exercise sessions. Patients who completed a higher overall proportion of their exercise sessions showed the largest cognitive gains (r=0.51, p=.03). This relationship was particularly apparent for completion of home exercise sessions (r=0.54, p=.02). Thus, aerobic exercise showed a dose-response relationship to cognitive improvement. Paying $5 for each completed home exercise session was helpful, but variability in exercise adherence remained. Assigning points for completing the most