Conclusions Our preliminary findings suggest that *ACCN1* (*ASIC2*) gene could be involved in modulating the susceptibility of BD patients to develop renal dysfunctions induced by chronic Li treatment.
Disclosure of interest The authors have not supplied their declaration of competing interest.

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O096

Association between two single-nucleotide polymorphism of *TAAR1* gene and suicide attempts

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Introduction *TAAR1* is a G protein-coupled receptor expressed broadly throughout the brain. Recently, *TAAR1* has been demonstrated to be an important modulator of the dopaminergic, serotonergic and glutamatergic activity.
Aims Assessment of the relation between two single-nucleotide polymorphisms of *TAAR1* gene, suicide attempts and alcohol abuse.
Methods A total of 150 Polish patients were included, 59 subjects after suicide attempt vs. 91 controls. The chosen SNPs (rs759733834 and rs9402439) were studied using RFLP-PCR methods. The Hardy-Weinberg equilibrium was tested in control group.
Statistical tests Chi^2 or Yeates Chi^2 Test were used.
Results The mean age of study subjects and controls was: 38 ± 12.3 and 42 ± 12.8 respectively; 49% study males vs. 54% male controls. We did not observe the association between the carriage of the genotypes GG, GA and AA of rs759733834 polymorphisms in either of the groups. The distribution of genotypes in respect to rs9402439 polymorphism (CC, CG, GG) was also insignificant. Among patients with alcohol dependence, the frequency G allele of rs9402439 polymorphism was lower compared to non-addicted ones (27 vs. 47%) $P < 0.01$.
Conclusions *TAAR1* polymorphisms rs759733834 and rs9402439 are not related to suicide attempts. The carriage of allele G of rs9402439 polymorphism is related to lower risk of alcohol addiction OR 0.40 95%Cl 0.20–0.81. To our knowledge, this is the first study on the *TAAR1* receptor and the risk of suicide and it might offer a new insight into genetic etiology of *TAAR1* receptor.
Disclosure of interest The authors have not supplied their declaration of competing interest.

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O097

Verbal learning and memory in at-risk mental state and first episode psychosis patients and their correlates to brain structural alterations

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Introduction Patients with a first episode psychosis (FEP) have repeatedly been shown to have gray matter (GM) volume alterations. Some of these neuroanatomical abnormalities are already evident in the at-risk mental state (ARMS) for psychosis. Not only GM alterations but also neurocognitive impairments predate the onset of frank psychosis with verbal learning and memory (VLM) being among the most impaired domains. Yet, their interconnection with alterations in GM volumes remains ambiguous.
Objective To evaluate associations of different subcortical GM volumes in the medial temporal lobe with VLM performance in ARMS and FEP patients.
Methods Data were collected within the prospective Früherkennung von Psychosen (FePsy) study, which aims to improve the early detection of psychosis. VLM was assessed using the California Verbal Learning Test (CVLT) and its latent variables Attention Span (AS), Learning Efficiency (LE), Delayed Memory (DM) and Inaccurate Memory (IM). Structural images were acquired using a 3 Tesla magnetic resonance imaging scanner.
Results Data from 59 ARMS and 47 FEP patients were analysed. Structural equation models revealed significant associations between the amygdala and AS, LE and IM; thalamus and LE and IM; and the caudate, hippocampus and putamen with IM. However, none of these significant results withstood correction for multiple testing.
Conclusions Although VLM is among the most impaired cognitive domains in emerging psychosis, we could not find an association between low performance in this domain and reductions in subcortical GM volumes. Our results suggest that deficits in this domain may not stem from alterations in subcortical structures.
Disclosure of interest The authors have not supplied their declaration of competing interest.

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O098

The effects of deep-brain magnetic stimulation (DMS) on white matter deficits: New mechanism in major depressive disorder (MDD) treatment

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Deep-brain magnetic stimulation (DMS) is an effective therapy for various neuropsychiatric disorders including major depression disorder. The molecular and cellular mechanisms underlying the impacts of DMS on the brain remain unclear. Studies have reported abnormalities in the white matter of depressive brains, suggesting the involvement of myelin and oligodendrocyte pathologies in the development of major depressive disorder. In this study, we use a cuprizone induced demyelination animal model to generate depressive like behaviours and white matter and oligodendrocyte damages. Meanwhile, we treated the animal with DMS 20 minutes daily during the cuprizone challenge or recovery period. Behavioural tests, including nesting, new objective recognition, working memory and depression-like behaviours were tested periodically. Histological staining and western blotting were used to examine the underlying mechanism of DMS. We found that DMS reverse cuprizone induced behavioural deficits in acute demyelination but not during the recovery period. DMS alleviated demyelination and inflammation induced by cuprizone. During the recovery period, DMS had no impacts on overall neural progenitor cell proliferation, but enhanced the maturation of oligodendrocyte. This data suggest that DMS may be a promising treatment option for improving white matter function in psychiatric disorders and neurological diseases in future.

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O099

A pilot project exploring the utility and acceptability of a socially-assistive robot in an assessment unit for people with neuropsychiatric symptoms

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Objectives Socially-assistive robots have been used with older adults with cognitive impairment in residential care, and found to improve mood and well-being. However, there is little known about the potential benefits in adults with other neuropsychiatric symptoms.
Aims The aim of this project was explore the utility and acceptability of a socially-assistive robot in engaging adults with a variety of neuropsychiatric symptoms.
Methods Betty, a socially-assistive robot was installed in a unit which specialises in the assessment and diagnosis of adults presenting with neuropsychiatric symptoms. She is 39 cm tall, has a baby-face appearance and has the ability to engage individuals through personalised services which can be programmed according to individuals' preferences. These include singing songs and playing games. Training for the nursing staff who were responsible for incorporating Betty into the unit activities was provided. The frequency, duration and type of activity which Betty was involved in was recorded. Patients admitted who could provide informed consent were able to be included in the project. These participants completed pre- and post-questionnaires.
Results Eight patients (mean age 54.4 years, SD 13.6) who had diagnoses ranging from depression and schizophrenia participated. Types of activities included singing songs, playing Bingo and reading the news. Participants reported that they were comfortable with Betty and did not feel concerned in her presence. They enjoyed interacting with her.
Conclusions This pilot project demonstrated that participants found Betty to be acceptable and she was useful in engaging them in activities. Future directions would involve larger sample sizes and different settings.
Disclosure of interest The authors have not supplied their declaration of competing interest.

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O100

Risperidone-treated children and adolescents with behavioral disorders: Do drug dose and patients' gender and age relate to drug and metabolite plasma levels?

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Introduction Behavioral disorders, such as conduct disorder, influence choice of treatment and its outcome. Less is known about other variables that may have an influence.
Objectives/Aims We aimed to measure the parent drug and metabolite plasma levels in risperidone-treated children and adolescents with behavioral disorders and investigate the role of drug dose and patients' gender and age.
Methods We recruited 115 children/adolescents with DSM-5 behavioral disorders (females = 24; age range: 5–18 years) at the Departments of Psychiatry of the Hospitals of Bolzano, Italy, and Innsbruck, Austria. We measured risperidone and its metabolite 9-hydroxyrisperidone plasma levels and the parent drug-to-metabolite ratio in the plasma of all patients by using LC-MS/MS. A subsample of 15 patients had their risperidone doses measured daily. We compared risperidone and 9-hydroxyrisperidone plasma levels, as well as risperidone/9-hydroxyrisperidone ratio, in males vs. females and in younger ($\leq$ 14 years) vs. older (15–18 years) patients by using Mann-Whitney U test. We fitted linear models for the variables "age" and "daily risperidone dose" by using log-transformation, regression analysis and applying the R2 statistic.
Results Females had significantly higher median 9-hydroxyrisperidone plasma levels ($P = 0.000$). Younger patients had a slightly lower median risperidone/9-hydroxyrisperidone ratio ($P = 0.052$). At the regression analysis, daily risperidone doses and metabolite, rather than parent drug–plasma levels were correlated (R2 = 0.35).
Conclusions Gender is significantly associated with plasma levels, with females being slower metabolizers than males. Concerning age, younger patients seem to be rapid metabolizers, possibly due to a higher activity of CYP2D6. R2 suggests a clear-cut elimination of the metabolite.
Disclosure of interest The authors have not supplied their declaration of competing interest.

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O101

Grey matter volume patterns in thalamic nuclei are associated with schizotypy in healthy subjects

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Introduction Schizotypy refers to a set of temporally stable traits that are observed in the general population and that resemble, in attenuated form, the symptoms of schizophrenia. In a previous work, we identified volumetric patterns in thalamic subregions which were associated with disease status, and trained a random forests classifier, accounting for such thalamic volumetric patterns, that discriminated healthy controls (HC) from patients with schizophrenia (SCZ) (81% accuracy) [1].
Objectives i) to assess performance of random forests classifier developed by Pergola and coworkers [1], in an independent sample of healthy subjects; ii) to test whether false positives (FP), i.e. HC classified as SCZ based on such classifier would be associated with greater schizotypy compared with true negatives (TN), i.e. HC classified as such.