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Abstracts Leaflet

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SE. 01 Personalised treatment of TRD in practice
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Despite decades of research and increased scientific attention over the last years, little progress has been made in treatment-resistant depression (TRD) from a clinicians' point of view. Personalization and precision is a major goal in neuropsychiatric research nowadays and several clinical, e.g. disease severity, recurrent episodes or comorbid anxiety disorders, as well as sociodemographic predictors of TRD, e.g. education, have been published with consistency. While candidate gene studies failed to provide a reliable model for TRD, newer genome-wide analyses led to auspicious results with polygenic or pathway-based targets for prediction of treatment outcome or new pharmaceutical considerations. Multivariate models built on large data sets that exploit timely statistical methods and multimodal data make belief that we are on the verge of fulfilling personalized medicine in MDD. Nevertheless, little of these recent findings have yet translated to the clinic and the state of the art for precision medicine in psychiatry is often hard to grasp. What are the promises of personalized treatment of TRD, what limitations have to be kept in mind and what obstacles have to be overcome to make new scientific findings impact actual treatment outcome of our patients?

SE. 02 Nutritional psychiatry: focus on mood disorders
Timothy Dinan
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Depression is a highly prevalent disorder which exerts a major economic impact in all European countries. The brain-gut-microbiota axis has been described as a new paradigm for advancing understanding and treatment of the disorder. There is now over-whelming evidence to support the fact that gut microbes have a major impact on central neurochemistry and behaviour, especially stress related disorders such as depression. Recent studies indicate that patients with depression have a gut dysbiosis. The reason for this dysbiosis is uncertain. Over recent decades, dietary patterns in Europe and elsewhere have undergone major compositional changes, with increased intakes of red meat, high fat foods, and refined sugars. Individuals who consume a Mediterranean diet have lower rates of depression and a recent study suggests that a Mediterranean diet may have antidepressant properties. Assuming this to be the case, which components of the Mediterranean diet mediate the effects? Highly levels of polyphenols or polyunsaturated fatty acids are obvious candidates. It has been recommended that patients with depression or vulnerability to depression should be encouraged to enhance a plant-based diet with a high content of grains /fibres and fish.

SE. 03 Treating cognitive dysfunction in mood disorders
Eduard Vieta
University of Barcelona

Major depressive disorder (MDD) and Bipolar Disorder (BD) are highly prevalent and disabling psychiatric illnesses often accompanied of cognitive dysfunction which may persist even when patients achieve clinical remission. Currently, cognitive deficits emerge as a potential target because they compromise the functional outcome of MDD and BD patients. This presentation will review data for several potential pharmacological and psychosocial treatments targeting cognition in MDD and BD, resulting from monotherapy or adjunctive treatment. Emerging data indicates that there are a number of promising new therapies, pharmacological agents or complementary medicines that may be useful. Drugs such as modafinil, lisdexamfetamine, ketamine/esketamine, vortioxetine, lurasidone, intranasal oxytocin, omega-3, s-adenosyl-methionine, scopolamine and erythropoietin, and interventions such as cognitive and functional remediation will be discussed.. Drugs and therapies targeting cognitive dysfunction in MDD should prove effective in improving specific cognitive domains and functioning, while ruling out pseudospecificity.

SE. 04 Advances in technology and digital psychiatry Diego
Hidalgo-Mazzei
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The constant growth and widespread availability of mobile technologies over the last decades have been a subject of intense interest and research in the affective disorders (AD) field. However, until now, and despite some encouraging results, research in the field has not been translated to reach real-world clinical settings or additional evidence-based mHealth tools for people suffering from AD. On the other hand, commercial untested and unvalidated smartphone apps and wearables are already being increasingly used by patients suffering from these illnesses seeking for monitoring symptoms and receiving help to cope with their specific disorders. Hence, there is a latent need and demand from service users to integrate mHealth in their care which the field cannot fulfil yet. In this presentation, we review these issues describing real-world cases and critically appraising the current evidence about the validity and efficacy of mHealth tools in AD. In addition, we will briefly review the scientific literature of projects offering mobile interventions regarding their feasibility and efficacy in bipolar disorder. Finally, we will present the case of the SIMPLe (Self-monitoring and psychoeducation in bipolar patients with a smart-phone application) project, explaining its approach and results on delivering a psychoeducational intervention for bipolar disorder both in clinical settings as well as an open platform. Challenges in the academic field hampering the advancement of these technologies and its implementation into clinical practice will be discussed. Lastly, we propose a framework to overcome these issues which could facilitate and speed-up mHealth solutions to reach service users.

SE. 05 Recent regulatory guidance about certain mood-stabilising medicines in women of child-bearing potential: are some prescriptions worth the risk?
David Baldwin
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New regulatory requirements and professional guidance relating to valproate-containing medicines necessarily have a significant impact on the overall care and management of many pregnant women and girls and women of child-bearing potential who suffer from bipolar disorder or other psychiatric disorders. I will describe recent regulatory statements regarding valproate prescriptions, summarise current evidence for alternatives to

valproate, and provide advice on how women who are currently undergoing treatment with valproate-containing preparations can be switched to alternative treatments.

SE. 06 Therapeutic implications of including hypochondriasis in the ICD-11 Obsessive-Compulsive or Related Disorders (OCRDs)

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Hypochondriasis, otherwise known as illness anxiety disorder, is characterised by the persistent preoccupation with or fear about having serious disease that persists or recurs despite appropriate medical evaluation and reassurance. Hypochondriasis is associated with repeated visits to health care services, high health-care costs, unnecessary diagnostic interventions and disturbed patient-doctor relationships, or alternatively clinical avoidance, risking unfavourable delays in case of actual disease. The disorder impacts negatively on quality of life, social and occupational functioning and health care resource utilization and is an important mental disorder to recognize and treat [van den Heuvel O et al., Braz J Psychiatry. 2014;36 Suppl 1:21-7].
The World Health Organisation ICD-11 proposes revision of the diagnosis of hypochondriasis, classifying it among the obsessive-compulsive and related disorders (OCRDs) based upon shared phenomenology (preoccupation, rumination, compulsive behaviours such as checking, information seeking, cyberchondria, requests for reassurance) and patterns of familial aggregation with OCRDs. As with other OCRDs, ICD-11 hypochondriasis includes those with no insight. However, hypochondriasis is also cross-listed in the anxiety and fear-related disorders grouping, in recognition of some phenomenological overlap (fear, hypervigilance to and catastrophic misinterpretation of bodily symptoms, avoidance) [Reed GM et al., World Psychiatry. 2019;18(1):3–19].
Compulsive behaviours, such as cyberchondria, representing an urge-driven tendency to seek digital health or illness-related information, are believed to play a key role in maintaining hypochondriacal preoccupations (just as compulsions may maintain obsessive-compulsive disorder) and represent a potential interventional target. Indeed, hypochondriasis may demonstrate a similar response to treatments used for OCRD, including serotonin reuptake inhibitors and cognitive-behavioural treatments involving exposure and response prevention (Stein DJ et al., J Affect Disord. 2016 Jan 15;190: 663-674). Thus, the ICD-11 revision could be expected to improve clinical utility by enabling better recognition and treatment of patients with hypochondriasis within a broad range of health-care settings.

SE. 07 Enduring effect of psychotherapy vs medication in anxiety disorders

Borwin Bandelow
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Anxiety Disorders (panic disorder/agoraphobia, generalized anxiety disorder, and social anxiety disorder) can be treat successfully with psychological treatments and/or medications (1).
In a meta-analysis of 234 acute treatment studies for anxiety disorders involving 37,333 patients (2), we had shown that medications were associated with significantly higher average pre-post effect sizes (Cohen's d=2.02) than psychotherapies (d=1.22).
It is a common opinion that patients treated with drugs show immediate relapse after stopping medication, whereas gains of psychological therapies are maintained for months or years after treatment termination. Many follow-up studies found that psychotherapies had enduring effects. However, most of these studies did not include control group. Therefore, we examined whether the enduring effects of psychological therapies differed from control groups, i.e. medication or placebo groups, in a meta-analysis of 93 randomised controlled studies that included follow-up assessments after termination of the active treatment period (3).
We found that gains with CBT and other psychotherapies were maintained during FU periods of up to 24 months' duration. For CBT, even a significant improvement over time was observed. However, also patients in the medication group remained stable during the treatment-free period, with no significant difference when compared to CBT or other psychotherapies. Patients in the placebo group also did not deteriorate during FU, but showed significantly worse outcome than patients in CBT conditions.
As also medications and placebo treatments had enduring effects, results of follow-up studies without control group should be interpreted carefully. Long-lasting treatment effects may be superimposed by effects of spontaneous remission or regression to the mean.

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SE. 08 New findings on lithium

Markus Dold (Austria)

SE. 09 Can we restore altered biological pathways in TRD starting from genetic findings?

Chiara Fabbri
King's College London, United Kingdom

The lack of response to commonly used serotonergic and noradrenergic antidepressants in patients with treatment-resistant depression (TRD) suggests that specific pathogenetic mechanisms are involved compared to treatment-responsive depression. This hypothesis is supported by the observation that antidepressants with alternative mechanisms of action (e.g. ketamine) show high chances of success in treating TRD. However, treatment options with level of efficacy comparable to ketamine and better tolerability are still not available.
Pharmacogenetics is an interesting tool to identify and study the pathogenesis of TRD in terms of affected pathways and possible targets for new drugs. Traditional drug development is a very long and expensive process (13-15 years and US$2-3 billion) with only 10% chance of being approved by regulatory agencies. Pharmacogenetics can assist drug development in two possible ways: guiding the identification of possible pharmacological targets or the repositioning of drugs previously studied for other diseases. The first approach can be applied by performing

pathway analysis on high-throughput genotyping data (e.g. genome-wide data and sequencing data). For example, these analyses supported a relevant role of pathways modulating neural survival and changes in gene expression patterns. In line with these results, histone deacetylase inhibitors (which facilitate the modulation of gene expression) show antidepressant-like effects in animal models. The second approach is drug repositioning and consists in linking pharmacogenetic findings with the known targets of existing drugs. Possible pharmacological modes of action suggested by this method include the modulation of calcium channels. These and other examples will be discussed as well as the possible implications in terms of time and money savings in the development of new drugs for treating TRD.

SE. 10 Treatment of depressive and negative symptoms of schizophrenia

Istvan Bitter
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Background: Primary negative symptoms (PNS) are core features of schizophrenia and are strongly associated with poor outcomes. In the course of schizophrenia the proportion of patients suffering from PNS is increasing. Secondary negative symptoms are associated with positive symptoms, extrapyramidal symptoms (often caused by antipsychotic treatment), depression, psychoactive substance use, social isolation etc. The deficit syndrome includes enduring PNS. Depressive symptoms are often present in schizophrenia and are associated with suicidality and secondary negative symptoms in schizophrenia, however they will only be shortly addressed.
The aim of this presentation will be to review evidence based pharmacological treatment for negative symptoms in schizophrenia and provide a short summary about their psychosocial treatment and about the treatment of depressive symptoms in schizophrenia.
Method: Review of the literature (Pubmed, Scopus, last 5 years) for evidence based treatment of negative symptoms and a review of the relevant regulations by the Food and Drug Administration and by the European Medicines Agency (EMA).
Results: The treatment of secondary negative symptoms (Kirschner et al., 2017) includes antipsychotics (for negative symptoms secondary to positive symptoms), and in addition to antipsychotics: antiparkinsonian drugs (mainly for hypokinesia), antidepressants (controversial indication), cognitive therapy (for depression). The effects of treatment of comorbid substance use and of psychosocial interventions for social isolation have been rarely studied in relation to negative symptoms in schizophrenia. Some studies enrolled patients with prominent negative symptoms, however regarding predominant negative symptoms (as required by EMA), only amisulpride was significantly better than placebo out of three tested drugs (amisulpride, olanzapine, zotepine). Direct comparisons of antipsychotics in patients with predominant negative symptoms indicated significant difference in very few studies: olanzapine was significantly superior to haloperidol in a small study (n=35) and cariprazine was superior to risperidone in a large study (n=456) (Nemeth et al., 2017).
The authors of a large meta-analysis of 168 studies addressing the effects of various treatment modalities concluded that none of them had "meaningful" effects on negative symptoms (Fusar-Poli et al., 2015).
Conclusions: Secondary negative symptoms may respond well to various types of treatment, while PNS respond poorly to the vast majority of available treatments for schizophrenia. Very few studies have specifically selected patients with PNS or with predominant negative symptoms; they showed the superiority of olanzapine over haloperidol and of cariprazine over risperidone.

Potential conlicts of interest (last 5 years): Dr Bitter reports serving as a consultant to and/or speaker for Angelini, Gedeon Richter, Janssen/Janssen-Cilag, Eli Lilly and Company, Lundbeck, Pierre Fabre, and Servier.

SE. 11 The role of anxiety in Baclofen treatment for alcohol dependence

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There is significant co-morbidity of alcohol dependence with anxiety symptoms and disorders. Baclofen, a selective gamma-aminobutyric acid-B (GABA-B) receptor agonist, has emerged as a promising drug for alcohol dependence. It has been marketed since the early 1970s for the treatment of muscle spasticity, secondary to neurological conditions. The wide use of baclofen as a myorelaxant has provided detailed information on its safety and side effects in these patients. From the 1970s, research, largely in animal addiction models, suggested that baclofen may also be effective in the treatment of alcohol dependence.
Since then, there have been five meta-analyses of baclofen based on randomised trials of baclofen in the treatment of alcohol dependence, with conflicting results, partly due to the significant methodological differences between studies.
However, experimental paradigms suggest that Baclofen has an impact on reducing anxiety in alcohol withdrawal, and reduces alcohol preference in active drinking phase in response to stress. Results from current RCTs suggest that higher levels of drinking potentially favours an effect for Baclofen in the relapse prevention phase (and alcohol withdrawal), and some sub group analyses indicate that baclofen may be more effective in patients with anxiety.
A recent consensus statement has helped to clarify its position for the treatment of alcohol dependence, and a systematic review examining the potential role of anxiety in Baclofen treatment for alcohol dependence is underway. The presentation will give an overview of the current state of knowledge and enable discussion of how best to elucidate the remaining uncertainties.

SE. 12 Rapid Acting treatment in depression

Siegfried Kasper
Department of Psychiatry and Psychotherapy, Medical University of Vienna, Austria

Treatment-resistant depression (TRD) has been the topic of research in the past years. It is evident that rapid acting treatments which can be achieved for instance with therapeutic sleep deprivation or electroconvulsive therapy is also necessary from a psychopharmacological point of view. Systematic studies have been carried out with esketamine as a follow-up program to the successful picotal studies with ketamine studies. Recently, an intranasal form has been approved by the American health regulatory authorities (FDA) which showed rapid antidepressant as well as anti-suicidal effect. Long-term studies also acknowledged the efficacy and tolerability of this treatment in a placebo-controlled add-on treatment paradigm. Brexanolone is another example of a rapid acting anti-depressant treatment modality which exhibited efficacy in post-partum depression. Future studies with compounds affecting the glutamatergic system will refine the way how we treat our TRD patients.

SE. 13 Psychopharmacological approaches to Bipolar Depression

Allan H. Young
President of the British Association for Psychopharmacology, Centre for Affective Disorders, Maudsley Hospital and King's College London, United Kingdom

Bipolar disorder (BD) is a common, chronic, severe, complex and costly group of recurrent psychiatric illness that can be devastating for the affected individual and their families. There is a significant clinical need for more effective and better tolerated drug treatments for BD. Depression accounts for the predominant burden associated with bipolar disorder. However, both the identification and management of bipolar depression are challenging, since bipolar depression differs little symptomatically from unipolar depression and responds poorly to traditional antidepressants, which may also induce a switch to mania and/or cause rapid cycling. Current treatment options for bipolar depression are limited and guidelines vary greatly in their recommendations, reflecting gaps and inconsistencies in the current evidence base. Moreover, some recommended options, such as quetiapine, although clearly efficacious, are associated with adverse cardiometabolic side effects, which may be detrimental to the long-term physical health and wellbeing of patients, increasing the likelihood of treatment non-adherence and relapse. More recent evidence for lurasidone and cariprazine suggests that it they may effectively manage patients' depressive symptoms. In addition, novel agents targeting alternative neurotransmitter pathways and inflammatory processes (such as ketamine, minocycline and N-acetyl cysteine) are emerging as promising potential options for the treatment of bipolar depression in the future.

Key words: antidepressant; atypical antipsychotic; bipolar depression; bipolar disorder; pharmacotherapy

KEYNOTE LECTURE: Transcranial magnetic stimulation

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Neuromodulation techniques and, in particular, repetitve TMS have long been investigated in the treatment of various neuropsychiatric disorders, with FDA approval for treatment-resistant depression and for deep TMS in OCD. Theta burst stimulation are increasingly investigated, especially in the field of addiction and behavioral addictions. Given the high rates of non-response to treatment of psychiatric disorders, there is a compelling need to develop alternative treatments to target residual symptoms: neuromodulation techniques allow a network pathway-oriented treatment, advantageous for their focality and ability to target specific networks and to also reach distant key nodes, grounding upon our the paradigm of brain connectivity and the increasing evidence of the brain circuitries underlying specific behavioral domains. Also, neuromodulation techniques may be employed as a tool to investigate and broaden out knowledge regarding neuroplasticity and inflammatory phenomena in psychiatric disorders. However, whereas the employ of neuromodulation is rapidly spreading in clinical settings, research on its mechanisms of action and its interactions with pharmacotherapy and psychotherapy is still scarce and requires further developments. Aim of this intervetion is to clarify the rationale of personalized treatment protocols with repetitive TMS in various neuropsychiatric disorders in order to optimize treatment and identify predictors of treatment response.

SE. 14 The role of anxiety in Baclofen treatment for alcohol dependence

Alessandro Serretti
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New antipsychotics are effective options in the treatment of mood disorders, each with characteristic efficacy and safety features. In order to optimize the balance between efficacy and side effects, it is of upmost importance to match compound specificity against patient clinical profile. As the number of new antipsychotics increased, this presentation can assist physicians in the prescription of three novel antipsychotics already on the market, namely lurasidone, brexpiprazole and cariprazine.
EMA and/or FDA approved lurasidone for bipolar depression, brexpiprazole as augmentation in major depressive disorder and cariprazine for the acute treatment of manic or mixed episodes associated with bipolar I disorder. These new antipsychotics were developed with the aim of improving efficacy on negative and depressive symptoms and reducing metabolic and cardiovascular side effects compared to prior antipsychotics, while keeping the risk of extrapyramidal symptoms low. They succeeded quite well in containing these side effects, despite weight gain during acute treatment remains a possible concern for brexpiprazole, while cariprazine and lurasidone show higher risk of akathisia compared to placebo and other antipsychotics such as olanzapine. The available studies support the expected benefits on cognitive dysfunction and depressive symptoms, while the overall effect on acute psychotic symptoms may be similar to other antipsychotics such as quetiapine, aripiprazole and ziprasidone.
The discussed new antipsychotics represent useful therapeutic options but their efficacy and side effect profiles should be considered to personalize prescription.

SE. 15 Inflammation in Affective Disorders

Allan H. Young
President of the British Association for Psychopharmacology, Centre for Affective Disorders, Maudsley Hospital and King's College London, United Kingdom

Affective disorders are a common, chronic, severe, complex and costly group of recurrent psychiatric illness that can be devastating for the affected individual and their families. These are understood conceptualised with the "BioPsychoSocial" model but clear understanding of aetiopathogenesis is lacking. There is also a significant clinical need for more effective and better tolerated treatments for these disorders. Recently, the emerging concepts of inflammation applied to affective disorders has promised greater understanding of aetiopathogenesis and potentially targeted treatments. The evidence for inflammatory markers will be reviewed as will the emerging evidence for benefit (or lack) of anti-inflammatory treatments.

Key words: inflammatory markers; anti-inflammatory agents; pharmacotherapy

SE.16 Genetic testing in psychiatry: what clinicians need to know

Chiara Fabbri
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Treatment non-response or unpleasant side effects are of common observation in psychiatric clinical practice. For example, non-response to the first line pharmacological treatment occurs in 50% of patients with major depressive disorder (MDD). Estimated non-adherence to the prescribed medications, mostly due to side effects, is 50-60% in patients with schizophrenia, bipolar disorder or MDD.
Genetic variants are responsible for 30-90% of variability in psychopharmacological drugs effects and pharmacokinetics, thus they can provide precious guidance in the choice of treatment, combined with standard clinical evaluation. A number of pharmacogenetic recommendations is available in clinical guidelines and drug labels and commercial pharmacogenetic tests are already widespread.
Pharmacogenetic markers provided by clinical guidelines and drug labels will be discussed (Clinical Pharmacogenetics Implementation Consortium; Dutch Pharmacogenetics Working Group; Food and Drug Administration). Over 30 psychotropic drugs (including antidepressants, antipsychotics and mood stabilizers) have pharmacogenetic markers according to drug labeling and/or clinical guidelines. The greatest part of the current recommendations regards functional genetic variants within cytochrome P450 genes involved in drug metabolism (CYP2C19 and CYP2D6). Examples of use of these genetic variants to guide treatment choices will be provided. The pros and cons of pharmacogenetics in clinical practice will be discussed as well as the possible future developments. Pharmacogenetics can already provide useful information to guide treatment prescription at least in a subset of patients but some limitations and open issues should be taken into account, such as genetic heterogeneity across ethnic groups and lack of convincing cost/effectiveness evidence.

SP. 01 How to manage patients with tratment resistant depression: could it also be ADHD

This lecture is organised and funded by Shire, now part of Takeda (and is intended for Healthcare Professionals only).

Toni Ramos Quiroga
Prof. MD, PhD, Universitat Autònoma de Barcelona; Hospital Universitari Vall d'Hebron. CIBERSAM, Spain

Major depressive disorder (MDD) is the leading cause of years lost owing to disability worldwide and the third overall contributor to the burden of disease.1,2 The STAR*D study suggests that up to 33% of patients may fail to achieve full symptomatic remission despite multiple medication attempts.3 On the other hand, several studies shown an increased ADHD symptom rate among depressed patients (up to 12%) in comparison to controls (4%), and a higher prevalence of depressive disorders among ADHD patients than in persons without ADHD.4–6 Participating in this symposium will give you the chance to hone your expertise in applying current knowledge on ADHD to your current and future patients. We will review and discuss the epidemiology, symptomatology and management of co-occurring treatment-resistant depression and ADHD.

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P.01 The basis of Ketamine action and its role on the treatment of Major Depressive Disorder

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Background/Aims: Depression is a serious cause of burden being associated with serious disability. Ultimately it may even lead to suicide, which is ranked as the top three causes of death among people aged 15 to 44. In this context it is important to keep in mind the presence of treatment resistant depression and the need to keep in mind alternative treatment options for it. Ketamine, a general anesthetic agent, has been proven as a clinically effective option in the treatment of treatment resistant depression with suicidal ideation and behavior. Its effect seems to be fast in any of its many administration forms – oral, intravenous or intranasal. With this work, the authors want to review the pharmacological basis for this treatment, its clinical effects and the doors its opens in the treatment of refractory depression.
Methods: The authors reviewed the relevant papers, through a non-systematically review of the literature and obtained by using Pubmed and Sciencedirect search engines. This search was made using "depression" and "ketamine" keywords.
Results and Conclusions:
With this work, the authors realized that ketamine has antidepressant and anti-suicidal action. This relates to its effect on the neurotransmitter, neuroinflammatory and neurotrophic levels. By this means, it acts through an effect on synaptogenesis and by multiple intracellular mechanisms. This mechanisms add multiple pathways to the neurophysiology of depression and uncover new ways of treating treatment resistant depression. Its central action seems to be through a non-competitive NDMA antagonism which sets in motion a series of neuronal mechanisms that ultimately lead to depression improvement. This novel drug, with its robust antidepressant effect in treatment resistant depression leads to a novel approach in the treatment of depression that will lead to more research and ultimately to a promising potential in the treatment of depression.

P.02 Practice of maintenance electroconvulsive therapy

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Background: Maintenance electroconvulsive therapy (**m-ECT**) is used to prevent the relapse and prolong remission after a successful acute treatment of several neuropsychiatric conditions with ECT. It is helpful for many patients suffering from severe mood disorders.
The concept of m-ECT existed since the invention of the method (late 1930´s), its use is not currently widespread. With the renewal of interest in ECT, there have been several studies confirming the long-term benefits of m-ECT.
Methods: A common practice is to gradually space out the applications at increasing intervals. Most importantly, patients undergo m-ECT in an **outpatient mode**. We utilize ultra-brief pulses with the energy titration in the right-unilateral placement of electrodes.
The spacing of our treatments is usually as following – after finalizing the acute phase (three times a week, eight to twelve applications). The first m-ECT session takes place after 1 week (for four times), then we prolongate to two weeks interval (for 1-2 months) and then applications take place every 4 to 12 weeks. There has been a debate in terms of optimal frequency. However, there are patients who do not adhere to this basic model and their treatment is individualized based on their current state.
When performing m-ECT, we require each patient to undergo a physical check-up with ECG (provided by a GP) to prevent somatic complications.
The data we used in this mirror study contain equivalent of periods preceding and following m-ECT.
Results: We wish to report that the contemporary practice of m-ECT at the General University Hospital in Prague in 26 patients led to mean reduction of on-bed-days from 5,510 days/month (median 2,457; SD 7,318 CI 95% 2,697 – 8,323) to 0,975 days/month (median 0; SD 2,095; CI 95% 0,170 – 1,780).
Conclusion: We demonstrate a major reduction of hospitalizations days fivefold with our m-ECT program.
We further provide **"rescue ECT"** in case of prodromal symptoms to prevent full relapse.
Acknowledgment: Supported by MH CZ-DRO VFN64165, Q27/LF1.

P.03 The Impact of Suicidality on Major Depressive Disorder - Results from the European Group for the Study of Resistant Depression

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Background/Aims: Suicidality represents a major clinical challenge in the diagnostics and treatment of patients suffering from major depressive disorder (MDD) with a prevalence of ≥50% (1, 2). However, we are lacking precise knowledge on the impact of different degrees of suicidality on the disease course and treatment outcome. To bridge this gap, the present European multicenter study investigated socio-demographic, psychosocial, and clinical features in MDD patients experiencing 1) no, 2) mild/moderate, and 3) severe suicidality (3).
Methods: 1410 patients with a current major depressive episode (MDE) in the course of MDD were stratified into 3 categories of suicidality according to the item 3 on the Hamilton Rating Scale for Depression (HAMD): 0 = no suicidality; 1–2 = mild/moderate suicidality; 3–4 = severe suicidality (4). Chi-squared tests, analyses of covariance, and Spearman correlation analyses were employed.
Results: In the present patient sample, the prevalence rate of suicidality amounted to 46.67% (item 3 score ≥1 on the HAMD). Whereas 53.33% of MDD patients exhibited no suicidality, 38.44% suffered from mild/moderate suicidality and 8.23% from severe suicidality (3). Based on this stratification into 3 levels of suicidality, significant differences in the following socio-demographic, psychosocial, and clinical variables were identified already between patients exhibiting mild/moderate severity and

those without any suicidal symptoms: severity of depressive symptoms, psychotic features, add-on treatment in general and most importatly, treatment resistance (3). Patients who suffered from severe suicidality significantly differed from patients lacking any suicidal symptoms in terms of inpatient treatment, augmentation with antipsychotics and benzodiazepines, melancholic features, and somatic comorbidities (3).
Conclusions: Since even mild/moderate suicidality was related to unfavourable treatment outcome in our large sample of MDD patients (3), adequate recognition of this meaningful condition should be ensured in the clinical routine. This enables initiation of appropriate therapeutic steps at early stages of treatment in order to avoid the development of detrimental disease course and treatment resistance (5).

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P.04 Spadin and shortened spadin analogs as efficient new antidepressants in mouse models of post-stroke depression

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Background: Stroke is a major disease associated with high mortality and serious long-term disability. Unfortunately, usual treatments fail to improve long-term recovery and thrombolysis, which is the unique short-term treatment, is efficient only on 10% of patients. Consequently, developing new treatments is necessary.
Aims: The TREK-1 channel represents an interesting target since its activity has been recently shown to be protective against stroke. We have identified a short molecule (spadin or PE 12-28) derived from a larger endogenous peptide, which is a potent antidepressant and is able to specifically inhibit TREK-1. More recently, we have identified shortened analogs of spadin that displayed the same properties. Our aim was to demonstrate that spadin and its shortened analogs have protective effects against depression that occurs after stroke.
Methods: For mimicking stroke on mice, we used the *in vivo* model of MCAo. Thanks to electrophysiology studies, we developed a protocol consisting in a two phase treatment, a low dose (0.03 mg/kg) for one week followed by a high dose (3mg/kg) treatment for several weeks. At different time points, behavioral tests were performed in order measure both motor and cognitive performance of the animals.
Results: Treated mice showed a significant reduction of the immobility time in the Forced Swimming Test. The eat latency in the Novelty Suppressed Feeding test was significantly reduced. Both tests demonstrate that the depressive state is improved. The learning capacity was increased in the Morris Water Maze and the motor coordination was improved in both rotarod and pole test. Additionally, the increase in neurogenesis, measured by BrdU incorporation was still present even at 10 weeks post trauma.
Conclusion: Taken together our results suggest that spadin and its analogs are very potent candidates for the development of new treatments improving stroke recovery, mainly by preventing the depression.

P.05 Comparison of depression, anxiety, and suicide ideation in transgender individuals based on their parents' reaction

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Background: The word " transgender" is an umbrella term used to describe people whose gender identity or gender expression is different from those of their sex assigned at birth and therefore experience gender dysphoria. A transgender is at an increased risk of mental health illness such as depression, anxiety, and/or suicide in comparison to a non-transgender individual, particularly when experiencing parental rejection to their gender identity. This study was conducted to compare the

level of depression and anxiety of transgenders who have come out to their parents, in accordance with the parents' reaction to it.
Methods: A retrospective chart review was conducted on 37 transgender individuals who had visited Bongseng Memorial Hospital in order to have a psychiatric assessment test before engaging in sexual reassignment therapy. The subjects were divided into two groups: those who felt accepted and those felt rejected at the time of coming out. Categorical variables were compared using Fisher's exact test and continuous variables were compared using the Wilcoxon signed-rank test.
Results: There were no significant differences in intelligence tested by the Wechsler Adult Intelligence Scale and employment status between the two groups. Nineteen subjects who did not receive acceptance from their parents were older (24.32 ± 6.73 vs. 20.73 ± 2.91) with longer years of education (14.26 ± 2.18 vs. 12.27 ± 1.22) ($p < 0.05$). Additionally, subjects whose parents rejected their gender identity showed higher scores of Beck depression inventory (17.58 ± 10.48 vs. 8.13 ± 5.74), Beck anxiety inventory (12.11 ± 11.44 vs. 3.67 ± 3.72), and Beck scale of suicidal ideation (10.11 ± 7.84 vs. 4.60 ± 5.00) compared to those whose parents showed acceptance ($p < 0.01$).
Conclusion: The study turned out that parental rejection was considered the main element which increases depression, anxiety, and suicidal ideation for transgender individuals. In order to protect their mental health, parental- and family-based interventions are strongly recommended.

P.06 Bipolar Disorder – Is gender important?

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Backgound/Aims: An equal sex incidence in bipolar disorder (BD) is described in literature. It may led to accept there are no significant differences between men and women in this disorder. However, it is known the existence of gender distinctions in some levels, which must be taken into account to the management of the patient. We describe the sex differences in an inpatient sample with BD.
Methods: An observational descriptive study was carried out on a sample of patients admitted to the Acute Psychiatry Unit of the Hospital Garcia de Orta (Portugal) between 01/01/2016 and 12/31/2017, who had a discharge diagnosis of BD (ICD-10). Case records were retrospectively consulted. Sociodemographic characteristics, type of episode (manic, depressive or mixed), therapeutics, concomitant drug use and legal regimens of inpatient and ambulatory (CA) treatments were analyzed. Chi-square test for independence was performed to search for associations between gender and each one of these variables.
Results: A total of 173 individuals corresponded to the study population. Sixty four percent were females and 35.8% were males. The average aged was 50.75 y.o. We found statistically significant association between gender and type of episode (p=0.008, for a confidence interval of 95%). Depressive episodes had a distribution by gender of 87.1% on the female sample versus 12.9% on the male sample. Mixed episodes occurred 66.0% on female sample and manic or hypomanic episodes had a ratio of 53/41 on female/male samples. Moreover, types of episode distribution was homogenic on female group, but, on the male group, the manic or hypomanic episodes had a higher frequency than the other types. On the other hand, women were overrepresented in all BD subgroups, including the manic group. Other gender dependent variables found were: the use of drugs (p=0.007), the regimen of CA treatment (p=0.03) and the use of long actin injection (p=0.028), all of them with higher frequency on the male sample.
Conclusions: This study had as major limitation, the small sample dimension. It is difficult to generalize the results. However, an association with gender was found for some of the studied variables. Further research assessing the heterogeneity of BD by gender is essential to better management of these patients and to improve their longterm outcome.

P.07 Seasonal variation of benzodiazepine utilization among the Croatian population

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Background: Benzodiazepines are medications widely used to treat anxiety and insomnia, and in managing alcohol withdrawal. These drugs should be only used in a short period of time, because within weeks of chronic use, dependence and withdrawal symptoms may develop. Additionally, abrupt interruption of the therapy occurs as a rebound phenomenon in the form of anxiety or insomnia.
Methods: The data for this study was extracted from Croatian Health Insurance Fund database and included the information about frequency of benzodiazepines prescription via outpatient utilization, retrospectively for the years 2015 and 2016. Only patients who utilized minimum of seven prescriptions in one year were included in further analysis, and for the purposes of our analyses, we assumed that the patients took the number of pills as prescribed. The rationality of benzodiazepines utilization as the seasonality pattern is shown in this paper.
Results: The results have shown an increasing trend of benzodiazepine utilization in a two consecutive years (2015 and 2016), with an average number of prescriptions of 259 535 in 2015, and 270 774 in year of 2016. The highest benzodiazepine utilization was noted during summer months. The overall increase was found with the exception of slight decline in July 2016 in a comparison to July 2015.
Conclusions: Previous studies have shown that patients tend use benzodiazepines over longer time periods than recommended by current guidelines. Whether prescribing benzodiazepines might raise a patient's risk of suicide is frequently being questioned in the past years, and recent studies reported a positive correlation between prescribed benzodiazepine and attempted or completed suicide. Additionally, the high-lethality suicide attempts group peaked in the months with a higher sunlight exposure. This analysis shows that the use of benzodiazepines in Croatia is particularly high in the summer months, which may contribute to the risk of suicide. Further analysis should be focused on general practitioner's drug prescribing patterns due to possible clinical and financial consequences, especially related to suicide risk.

P.08 Pharmacological management of acute mania: a 2-year retrospective study of prescription patterns in a portuguese acute psychiatric unit

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Background and Aims: Bipolar disorder is a disabling illness, leading to multiple hospitalizations throughout its course, with manic episodes representing an important proportion. International guidelines suggest both mood stabilisers and

antipsychotics as first-line treatment for acute mania. We intend to analyse the prescription patterns in the management of acute mania in our inpatient unit.

Methods: A retrospective observational study was carried out on a sample of patient admissions to the Department of Psychiatry of Hospital Garcia de Orta (Portugal), between January 1, 2016 and December 31, 2017, with the diagnosis of acute mania. Data were collected from medical records regarding sociodemographic and clinical characteristics, usual medication and prescription at discharge.

Results: A total of 97 patient admissions were included. Females accounted for 56.7% of admissions, and the average age was 49.6 years. Most patients had previous psychiatric hospitalizations (76.3%). Regarding usual medication, 47.4% were previously taking mood stabilisers (mostly Valproate) and 59.8% antipsychotics (mainly Quetiapine). Most patients were prescribed mood stabilisers in association with antipsychotics. Valproate was the most frequent mood stabiliser (69.1%), followed by Lithium (18.6%). The combination of Lithium and Valproate was found in 6.2%. Olanzapine was prescribed in 55.7% of admissions, followed by Aripiprazole (26.8%) and Quetiapine (26.8%). The association of one mood stabiliser with one antipsychotic was found in 35.1% and the preferred combination was Valproate with Olanzapine (50%). Forty-seven percent were prescribed three or more medications. Monotherapy occurred in 10.3% of admissions. Valproate was prescribed in 82.8% of admissions of women of child-bearing potential. Long acting injectable antipsychotics were used in 35.1% of discharges.

Conclusions: In our unit, mood stabilisers in association with antipsychotics are preferred as first-line treatment. Monotherapy occurred less frequently. Valproate was found to be the most frequently prescribed mood stabiliser, including in female patients in child-bearing age, against guideline recommendations.

P.09 The study of the clinical and psychological characteristics of patients with anxious neurotic disorders in the course of analytical-cathartic therapy.

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Background: The modern development of psychotherapy involves the conceptual integration of methods, which allows to increase efficiency and provide high-quality personalized treatment of patients with anxious neurotic disorders, considering specific targets of impact. Analytical-cathartic therapy (ACTA) is a modern model of psychotherapy based on the theory of personality and the concept of neurosis by V.N. Myasishchev. It is a synthesis of analytical conversation and imaginative technology "Dialogue with a significant other."

Aim: To study the dynamics of the clinical and psychological characteristics of patients, the characteristics of their social functioning in the ACTA process.

Methods: Semi-structured interview, SCL-90-R; "Personal Differential".

Patients were examined before psychotherapy, immediately after and in follow-up after 6 months.

Results: All of the patients (90 persons) were diagnosed with various neurotic disorders according to ICD-10 (F40–18.89%, F41–42.22%, F42–8.89%, F45–12,22 %, F48–17.78% with leading anxiety syndrome). The duration of disorders was from six months to five years (2 + -0.61 - 80%).

Patients who had received the ACTA psychotherapy (12 sessions) had significant differences during the examination. According to SCL-90-R, the severity of psychopathological symptoms decreased significantly on the scales “Somatization” ($p<0.01$), “Obsession” ($p<0.01$), “Sensitivity” ($p<0.01$), “Depression” ($p<0.01$), “Anxiety” ($p<0.01$), “Phobia” ($p<0.01$). Indicators reached standard values.

The “Personal Differential” methodology was used to estimate changes in self-awareness and interpersonal relationships. Statistically significant changes were noted on all three scales (“Assessment”, “Strength”, “Activity”). The increase of 2.3 ± 0.67 points on average ($p<0.01$) on the “Assessment” scale means self-acceptance as an individual, greater self-satisfaction. On the “Strength” scale, the greatest increase in the average is 3.5 ± 1.07 ($p<0.01$) indicates the development and awareness of the volitional aspects of the personality. On the “Activity” scale, the average score increased by 1.5 ± 0.57 ($p<0.01$), which indicates high activity, sociability, and increased extroversion.

Conclusions: Patients with anxiety neurotic disorders who had completed psychotherapy ACTA (12 sessions) had significant differences in clinical and psychological characteristics during examination before and after treatment. The greatest changes were recorded in reducing the severity of clinical symptoms, positive dynamics of indicators of various aspects of self-esteem, self-attitude, and relationships with others.

No conclusions of efficacy can be drawn from an uncontrolled study which does not take account of the placebo response.

P.10 Pain behavior: new application of dire scale in patients with chronic pain syndromes

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Objective: Pain behavior formation in patients with chronic pain depends on the interaction of several biological, psychological, and social factors, among which patients’ emotional state is dominated. Based on the multifactorial nature of subjective pain perception and response, specific pain behavior is formed in some patients with chronic pain syndrome (CPS) and interferes with the healing process or significantly extend.

Aim of the study was to assess predictors of forming pain behavior in patients with CPS, depending on the presence of comorbid psychiatric disorders such as depressive episode (MDD), generalized anxiety disorder (GAD), and anxiety-depressive disorder (ADD).

Methods: We're analyzed by socio-demographic characteristics and pain features in 135 patients with CPS non-cancer genesis and the non-psychotic mental disorders. A survey was conducted on a DIRE scale.

Results: Socio-demographic characteristics and individual CPS features had no significant effect on the formation of pain behavior. The presence of the non-psychotic mental disorders (MDD, GAD ADD) in the subscale risk factor of DIRE scale significantly ($p<0.05$) associated with pain behavior. The total score of DIRE scale in its reverse interpretation also indicates the tendency to the formation of pain behavior (MDD 11,7; GAG 11,8; ADD 11,3 VS CPS 19,0; $p<0.05$).

Conclusions: It is necessary to diagnose the non-psychotic mental disorders (MDD, GAD, ADD) in patients with CPS to identify the risk of pain behavior formation. Possible extension of DIRE scale clinical application is to identify the pain behavior propensity in patients with CPS.

P.11 Oriental herbal medicine for insomnia in elderly with hypertension: a systematic review and meta-analysis

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Introduction: Oriental herbal medicine (OHM), containing multiple active components, might have benefits for multiple pathological conditions. We aimed to analyze the efficacy and safety of OHM for insomnia in hypertensive elderly.
Methods: Thirteen databases were comprehensively searched to collect relevant randomized control trials (RCTs). The results of meta-analyses were presented as relative risk (RR) or mean difference (MD) with 95% confidence intervals. The quality of evidence was evaluated using the GRADE approach.
Results: Total eight RCTs were included in this review. Based on routine antihypertensive therapies in most cases, compared to hypnotics group, OHM group had a significantly higher total effective rate (TER) for improvement of insomnia (RR 1.24 [1.12, 1.39]). Compared to no intervention group, OHM group showed a significantly higher TER for improvement of insomnia (RR 1.70 [1.25, 2.33]), and lower systolic (MD -5.63 mmHg [-7.18, -4.09]) and diastolic blood pressures (MD -4.40 mmHg [-5.63, -3.18]), Pittsburgh sleep quality index (MD -4.11 [-5.72, -2.50]), Zung self-rating anxiety scale (MD -6.60 [-7.79 , -5.41]), and Zung self-rating depression scale (MD -6.15 [-7.43, -4.87]). There was no significant difference in the incidence of adverse events between the OHM group and no intervention group. The qualities of evidence ranged from “Very low” to “Moderate.”
Conclusion: OHM might have some beneficial effects including improving insomnia and blood pressure, and improving mental health, for hypertensive elderly with insomnia. However, since the methodological quality of the included studies and quality of evidence were not high, well-designed RCTs are urgent to confirm these results.

P.12 Association between cognitive functions and suicidal ideation in patients with mood disorder

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Background/Aims: Suicidal ideation is a common symptom of mood disorder, and it is a major risk factor of suicide. Numerous studies were conducted to improve methods for predicting suicide, but it is far from enough to address all the relevant factors regarding suicidal ideation and behavior. Cognitive deficits are thought to be a risk factor for suicidal behavior, but the role of cognitive function in suicidal ideation has not been adequately explored. The purpose of this study is to examine whether cognitive functioning differs between individuals with and without suicidal ideation.
Methods: 122 outpatients who had visited Mood Disorders Clinic of Seoul National University Bundang Hospital participated in this study. 68 had expressed suicidal ideation in a month. Suicidal ideation was also assessed using SSI. Their mood symptoms were evaluated by several clinical measurements, such as HAMD, YMRS. Also, a comprehensive neurocognitive functional assessment was used including the K-WAIS-IV Short Forms, trail making task, K-CVLT, ROCFT, and Stroop task. Mann-Whitney U test and chi-squared test were used for variables. The characteristics affecting the suicidal ideation were identified using a multivariate quantile regression. In this analysis, we adjusted variables, such as age, sex, education, diagnosis, depressive/manic symptoms(HAMD, YMRS) and IQ.
Results: There were no group differences in the demographic and clinical variables . Among the neurocognitive assessment, verbal intelligence and verbal memory scores were significantly higher in patients with suicidal ideation than in those without. Verbal memory and attention scores were positively associated with SSI score.
Conclusions: These results suggest that increased verbal abilities are associated with suicidal ideation. Further research is needed for verification.
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P.13 Personalized psychotherapy system for depressive disorders, taking into account the prognosis factors of their course

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Background: The urgency of the problem of depressive disorders is due to their high prevalence, tendency to chronicity, recurrence, resistance, impaired social functioning and quality of life of patients, as well as a high risk of auto-aggression.
Methods: 122 patients were examined, among them 40 patients with depressive episodes (F 32.0, 32.1, 32.2), 44 patients with recurrent depressive disorders (F 33.0, 33.1, 33.2), 38 patients with dysthymia (F 34.1). Based on a comprehensive examination, which included clinical, psychopathological, psychometric, psychodiagnostic and statistical methods, factors for prognosis the course of depressive disorders were identified, which made it possible to develop a personalized psychotherapy system.
Results: The personalized psychotherapy system included 3 stages (stage 1 - initial, stage 2 - stabilizing, stage 3 - prophylactic), based on a combination of individual and group psychotherapy and included the use of methods of cognitive-behavioral, family and art therapy. The leading method of psychotherapeutic influence was determined by CBT, which was used at all stages of psychotherapeutic correction and was differentiated at stages 1 and 2. At the initial stage, for patients with depressive episodes, the methods of “Analysis of experiences” and “Removal” were applied; for patients with recurrent depressive disorders - "Evaluation of feelings", "Mitigation of the intensity of emotions"; for patients with dysthymia - “Definition of expectations”, “Definition of evaluation of emotions”. At the stabilizing stage, the methods “Revaluation of Values”, “Change of Roles” were used for the primary depression; for recurrent - “Desensitization”, “Use of imagination”; for dysthymia - “Rational beliefs”, “Practical arguments”.
Conclusions: The personalized system of psychotherapy of depressive disorders allowed to develop a more adequate attitude to the disease, actualize constructive coping strategies aimed at overcoming the passive position of the observer, understand the prospects of the future, increase self-esteem, restore motivational potential.

P.14 Peculiarities of anxiety in the structure of mental health disorders of different genesis

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The risk of anxiety disorder formation in the population is 24.5 %, and according to data from the cross-sectional European study (ESEMeD) is 16 %. Every fourth person on the Earth suffered from any anxiety disorder at least once in his/her life, and incidence of these disorders is 17.7 % per year.
The aim of the work was to study clinical-pathopsychological and psychopathological peculiarities of anxiety in the structure of mental health disorders of organic, neurotic and endogenous genesis.

Research methods: clinical-psychopathological, Symptom Check List-90-Revised - SCL-90-R, psychodiagnostic methods: E. Krepelin tables, Benton Test, Integrative Anxiety Test, Zung Self-Rating Anxiety Scale, A.M. Etkind Color Relations Method.
The object of the study: 233 patients, including 70 patients with organic anxiety disorder (F 06.4), organic depressive disorder (F 06.3); 89 patients with neurotic disorders (anxiety-phobic disorders (F 40.0), somatoform autonomic dysfunction of the cardiovascular system (F 45.3), neurasthenia (F 48.0) and dissociative disorders (F44.7)); and patients with endogenous depressive disorders (F 33 and F 32),
Differentiated mechanisms of anxiety formation in the structure of organic, neurotic and endogenous disorders were identified:
- in organic disorders, anxiety was formed as a situationally conditioned response of personality to organic (somatic) diseases and its consequences, including a reduced performance;
- in neurotic disorders, anxiety formed with psychosomatic mechanisms and was a consequence of a non-solved intrapersonal conflict;
- in endogenous disorders, anxiety developed with affective mechanisms of personality reactions on individual changes due to the disease.
On the base of the investigation of the mechanisms, targets for therapy of anxiety in the structure of mental health disorders of different genesis (organic, neurotic and endogenous) were defined:
- in organic mental health disorders, the targets were the somatic and asthenic components of anxiety, and a social defense reaction conditioned by personality traits and situation;
- in neurotic disorders, the targets were an emotional discomfort, the personality phobic component of anxiety, and a personal anxious evaluation of prospects;
- in endogenous depressive disorders, the targets were the anxiety component and the anxious evaluation of perspective.
The obtained results allowed us to develop a differentiated integrated system of therapy, including pharmacotherapy, psychotherapy and psycho-education.
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The obtained results allowed us to develop a differentiated integrated system of therapy, including pharmacotherapy, psychotherapy and psycho-education.

P.15 Menière's disease – a psychosomatic disorder?

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Background and Aims: MD is a chronic disorder of the inner ear, characterized by recurrent spontaneous crisis of severe vertigo, hearing loss and tinnitus. The clinical course is variable and multiple factors have been proposed as triggers for the crisis, including psychological ones. The correlation between vertigo and anxiety is known. The role of anxiety and personality traits in MD course is not so well studied. The aim of this paper is to study the influence of personality traits and anxiety spetrum psychopathology in the course of Menière's disease (MD).
Methods: In a sample of 33 patients with diagnosis of definite MD (2016 consensus), we characterized the course of disease using face to face interview, Dizziness Handicap Inventory (DHI) and Visual Analogic Scale for vertigo (VAS). We described personality traits and anxiety states using face to face psychiatric interview ruled by the DSM-5 criteria, the Neo Personality Inventory Reviewed (NEO-PI-R) and State Trait Anxiety Inventory (STAI). We use SPSS to run univariable and multivariable analysis of the results.
Results: We found statistically significant positive correlations between frequency of crisis per year and STAI-*Y1*, NEO-PI-R-*N1*, DHI and VAS-*in crisis* scores. Also, we found significant positive correlations between STAI-*Y2* and VAS-*intercrisis* and DHI scores and between DHI and NEO-PI-R *N1* scores. The relationship between anxiety states and MD may be bidirectional. However, the role of personality traits is a strong indicative of a psychosomatic modulator for this disorder.
Conclusions: These results support the relevance of prospecting adjuvant psychological and psychiatric approaches to these patients, like cognitivebehavior psychotherapy or psychopharmacology strategies.

P.16 Is there abnormal functional connectivity between the cerebellum and the cerebrum networks in un-medicated patients with obsessive-compulsive disorder?

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Background: Previous research reported the decreased functional connectivity between the cerebellum and the

cerebral regions which are associated with the affective-executive control network in the patients with obsessive-compulsive disorder (OCD). The study also indicated the significant positive correlation of decreased right Crus Ⅰ-inferior parietal lobe connectivity with the severity of obsessive-compulsive symptom.
Aim: The aim of this study is to verify the result of the previous study.
Methods: A total of 41 medication-free OCD patients and 52 healthy controls(HCs) underwent resting-state functional magnetic resonance. Seed-based connectivity analyses were performed to examine differences in cerebellar-cerebral connectivity in OCD patients compared with HCs. We examined the correlations between the abnormal functional connectivity in OCD patients and the Yale-Brown Obsessive Score (Y-BOCS). The Institutional Research and Ethics Committee of Kyushu University approved the study (No.27-319).
Results: OCD patients showed significantly increased functional connectivity between left Crus Ⅰ and right angular gyrus. There were no correlations between the functional connectivity and the Y-BOCS score.
Conclusions: Our results were different from the results of the previous study. Additionally, this study did not indicate the correlation between the altered functional connectivity and symptom severity. However, increased functional connectivity between the cerebellum and the angular gyrus might be associated with the pathophysiology of OCD.
Acknowledgement: This work was supported by a Grant-in-Aid for Scientific Research (C) Grand Number 19K08076 and 16K10253.

P.17 Exposure to Ambient Fine Particles and Depressive Symptoms in Alzheimer Disease: CREDOS (Clinical Research Center for Dementia of South Korea) Study

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Background: There is a growing concern that air pollution, especially those particles less than 2.5μm (PM2.5), could increase the risk of mental disorders such as depression, suicide or dementia. However, the relationship between ambient PM2.5 and depressive symptoms in patients with Alzheimer disease (AD) is still undetermined.
Aims: The current study was designed to evaluate the association between ambient PM2.5 exposure and changes in depressive symptoms in participants who had AD.
Methods: This study is based on the Clinical Research for Dementia of South Korea (CREDOS) cohort. The CREDOS study is a hospital-based cohort, composed of patients who had visited 56 participating hospitals between September 2005 and June 2010. Among patients with cognitive disorder, we chose patients with Alzheimer Disease (AD) who had not changed their residence within Seoul (n=273) where we can assess exposure to PM2.5 on daily basis. The Korean version of Geriatric Depression Scale-short form (GDS) was used to measure depressive symptoms. Poisson regression analysis was selected to evaluate PM2.5 effect on depressive symptoms by using generalized estimating equations (GEE).
Results: The mean (±standard deviation) age was 74.35 (±7.59) years and the mean years of education was 8.31 (±5.83) years. 31.87% of participants were male. The mean (standard deviation) scores of CDR-SB, K-MMSE and GDS were 5.08 (±2.81), 19.77 (±4.90) and 5.57 (±4.35). Aggravated depressive symptoms were associated with exposure to high PM2.5 levels (adjusted percent change APC per 10 μg/m3 PM2.5 increase for 3-day average: 5.76% [95% CI, 0.31-11.51]).
Conclusions: The present results indicate that PM2.5 exposure is associated with depressive symptoms in patients with AD. The findings in this study suggest that the role of air pollution deserves great consideration in elderly with cognitive impairment.
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P.18 Mobile app for the add-on treatment of generalized anxiety disorder and anxiety in mild to moderate depressive disorder – an assessment of need of patients and health care professionals

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Background: Anxiety is one of the most common symptoms in Mental Health. In Portugal, the lifetime prevalence of anxiety disorders is 25.8% with an annual prevalence of 16.5%.[1] The public health care system is overwhelmed and anxiety treatment strategies are scarce.
Digital applications have proven efficacious as stand-alone and integrated with psychotherapy.[2] To our knowledge, there are no mobile applications developed and studied in the Portuguese population.
Aims: Develop and study the efficacy of a mobile app focusing on anxiety and depressive symptoms in generalized anxiety disorder and mild to moderate depressive disorder.
Methods: We used a mixed methods approach. Focus groups with professionals and patients were conducted separately. Then, a nationwide internet-based survey was carried out. This step was to get relevant information from patients and professional to inform on the app development. Two different strategies of research allow the development closer to the need of the individuals. Qualitative and quantitative analysis were done accordingly.
Results: We conducted three groups with 12 professionals, three groups with 15 patients and obtained 243 answers to the survey. The mean age was 38 years, 80% females, 52% single and 39% married, with a mean 17 years of education. The majority (47%) had already tried health apps, but 50% believed that they did not have adequate medical information. A group of 42% is searching for an app and only 6% believe that a app would not be useful; 87% would like that the app regularly assess their mental health and return with suggestions and 94% would like the app to facilitate the learning of anxiety dealing strategies. In focus groups we obtained detailed suggestions for the app.
Conclusions: We obtained important contributions to the development of the app. Our results showed that there is a large interest in an app to help manage anxiety.

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symptom and functional outcomes for people with mild-to-moderate depression, anxiety and stress: a randomised controlled trial. *BMC Psychiatry* **13,** 312 (2013). doi:10.1186/1471-244X-13-312

P.19 The Effects of a Mobile Application using the MBSR technique on symptom relief of outpatients with panic disorder: A pilot study

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Aims: The aim of this study was to examine the effects of a mobile application using the Mindfulness-based stress reduction (MBSR) technique for symptom relief in outpatients with panic disorder.
Methods: Participants diagnosed by psychiatrists with panic disorder using the Mini International Neuropsychiatric Interview were recruited from outpatient clinics in the National Health Insurance Service Ilsan Hospital. After obtaining written informed consent, participants received a free license for an application named MABO, which is based on MBSR technique.
Participants were instructed to use a MABO program for panic disorder on a scheduled basis for one month. This program consisted of MBSR introduction, internal awareness of present-moment experiences, non-judgmental stance, breath awareness practice, body scan, and breathing exercise for panic attack.
Psychiatrists assessed severity of panic disorder of participants at baseline (0 week) and 4 weeks using the Panic Disorder Severity Scale (PDSS). Self-reporting measures including the State-Trait Anxiety Inventory, (STAI), Korean version of Center for Epidemiologic Studies Depression Scale-Revised (K-CESD-R), Anxiety Sensitivity Index (ASI) and Body Sensations Questionnaire (BSQ) were assessed at baseline and 4 weeks using a platform for mobile assessment.
Results: Fourteen participants were enrolled; 4 dropped out. Total 10 (4 Male, 6 Female) patients were included in the statistical analysis. Their mean age was 37.5 (SD 7.23), and mean duration of illness was 21.90 (SD 15.07) months. Mean usage time of the application was 97.00 (SD 41.91) minutes in 4 weeks.
There was no significant difference between baseline and 4 weeks in PDSS, K-CESD-R, and STAI scores. The ASI and BSQ scores decreased significantly after using the application (ASI, $p<0.003$; BSQ, $p<0.048$).
Conclusion: The application using MBSR technique was revealed to be effective in reducing anxiety sensitivity and bodily sensation of outpatients with panic disorder in this study.
Since elevated anxiety sensitivity and overreaction to body sensations have been reported as a predictor of panic symptoms, the MBSR application might be helpful for symptom relief in outpatients with panic disorder.

P.20 Clinical Implication of Agoraphobia in the Patients with Panic Disorder

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Background/Aims: Agoraphobia is frequently accompanied by panic disorder and causes considerable suffering to patients. The object of this study is to compare the clinical features and treatment course of patients with and without agoraphobia in panic disorder.
Methods: In this retrospective study, a total of 87 patients with panic disorder according to DSM-IV-TR criteria were included. They were divided into two groups: patients with agoraphobia (PDA, n = 41) and patients without agoraphobia (PD, n = 46). In addition, agoraphobia subscale score of the Albany Panic and Phobia Questionnaire (APPQ) was used to find the correlation between panic symptoms and other affective symptoms. This study was approved by the Institutional Review Board (IRB) of Konkuk University Hospital.
Results: The mean onset age of PDA was 28.8 ± 11.7 years whereas that of PD was 34.9 ± 13.0 years ($p = 0.016$). According to various scales, PDA had more severe symptoms of panic, depression and anxiety (Table 1). The duration of benzodiazepines use was significantly longer in PDA than PD (307.2 ± 445.9 days vs. 103.4 ± 108.0 days, $p = 0.008$). Also, the PDA were much more likely to take more antidepressants and antipsychotics concomitantly (Table 1). The agoraphobia subscale score was associated with panic symptoms, depression, anxiety and duration of benzodiazepines use (Figure 2).
Conclusions: Patients with PDA were more likely to have younger age of onset. PDA group showed more severe panic symptoms and affective symptoms including depression and anxiety than PD group. In addition, PDA took longer duration of benzodiazepines and more treated with antipsychotics augmentation. These findings suggest that the disease severity is greater in PDA than PD group and they maybe experience serious course of disease.
Key words: panic disorder, agoraphobia, depression, anxiety

P.21 Understanding the essence of Mood Disorders through the eyes of poetry

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Background/Aims:Psychiatric disorders have a history as old as mankind. The ancient literature is replete with vivid descriptions of various afflictions of the mind. Though, the continued effort to classify and sub-classify mental illnesses has helped in increasing our understanding and helped in carrying out research, it has its own inherent drawbacks. One of the major drawbacks relates to losing the very essence of the mental illnesses in the jargon of coding and classification. Could poetry help in rediscovering this lost essence? This is the basic question that this research paper attempts to answer.
Methods: We carried out an online search of English language poems on the themes of depression, mania and mood disorders.

- The poems thus listed were qualitatively assessed by our team of two psychiatrists and a senior English language teacher.
- The selected poems were analyzed and relevant phrases, metaphors and similes marked.

Results: Of the shortlisted poems, Samuel Taylor Coleridge's classic lyrical ballad, "The Rime of the Ancient Marine" has phrases like "idle….painted ship" that is "stuck" with no "breath or motion", "Water, water everywhere…….Nor any drop to drink." to portray depression.
Similarly, phrases and metaphors were identified from other shortlisted poems as well.
Conclusions:

- Use as teaching aids for better understanding of the illness.
- The patients could explain their symptoms in a better way by way of poetry as it is one of the few media of public communication that can be (more or less) trusted to represent honestly and authentically the truth.
- More and more patients could be identified as suffering from mood disorders not fulfilling the required diagnostic criteria.
- Poetry, far from being "an unusual pairing" with medicine, helps us to rediscover the complicated emotions associated with

psychiatric disorders which can so easily be lost when we merely focus on the technical aspects alone.

P.22 Lithium or valproate in Bipolar Disorder? A 3-Year Prospective Cohort Study

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Background: Bipolar disorder is a lifelong recurrent illness with high rates of hospitalization, suicide and comorbidity.[1] Long-term drug treatment is often required to prevent relapse or recurrence.[2] According to The National Institute for Health and Care Excellence (NICE) guidelines, lithium should be the first-line approach for maintenance treatment, and equivalent efficacy is attributed to valproate, quetiapine and olanzapine.[3] The applicability of RCT results to people with bipolar disorder in the real world may be limited.[4]
Aims: compare the efficacy of lithium, valproate and antipsychotics in preventing hospitalization in bipolar patients.
Methods: we conducted a 3-year prospective cohort study in a community mental health team located in Lisbon. Patients with bipolar affective disease (according to the International Classification of Disease 10th version), aged 18 years and over, who were followed up during 2015 were selected. We screened clinical and demographic characteristics. Patients were divided in four groups: lithium (1), valproate (2), lithium plus valproate (3) and antipsychotic only (4). The clinical outcomes were hospitalization for any mood episode, length of hospital stay and emergency department visits. Parametric tests were used for statistical analysis.
Results: We followed up 150 patients, 73% females, with a mean duration of illness of 7 years. Co-administration of antipsychotics was 83% in groups 1 and 2 and 100% in groups 3 and 4. Hospitalization and length of admission was significantly reduced only in valproate patients (p-value 0.008 and p-value 0.012, respectively). Emergency department visits were only significantly reduced in group 4.
Conclusions: In our study we found valproate to be superior to lithium regarding the outcome variables considered. These results elucidate the need for further clinical studies for individuals outside randomized clinical trials.

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P.23 Rapid augmentation of antipsychotic drugs by sodium nitroprusside (SNP). Behavioral assessment and effect on brain dopaminergic transmission in rats

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Background: Recently, a single injection of the nitric oxide donor sodium nitroprusside (SNP) was found to induce a rapid (within 4 hours) and sustained (several weeks) antipsychotic effect in treatment-resistant schizophrenic patients [1]. Moreover, a single injection of SNP was found to produce a prolonged block of the psychotomimetic effects of phencyclidine or ketamine in rats [2], as well as to generate both rapid and persisting changes in brain synaptic plasticity, including enhanced excitatory postsynaptic current (EPSC) responses and spine morphology in layer V pyramidal cells in rat medial prefrontal cortex (mPFC) brain slices [3]. Here we have studied the antipsychotic-like effect of SNP in rats using behavioral techniques, both when given alone and in combination with a sub-effective dose of risperidone (RISP). Correlative biochemical studies of regional dopamine release in the brain were also performed. Moreover, in vivo voltammetry studies of regional NO levels in the brain were recently included from which preliminary data are shown here.
Methods: We used the conditioned avoidance response (CAR) test to investigate the antipsychotic-like efficacy, since this behavioral assay has shown a very high predictive validity to identify drugs with clinical antipsychotic activity, and in vivo microdialysis in freely moving animals to measure neurotransmitter efflux in the mPFC and the nucleus accumbens (NAc), respectively. The electrochemical detection of NO levels in the rat mPFC and the Nac was performed according to Finnerty *et al* (2015) in one freely-moving rat using NO selective amperometric microsensors made of a Nafion-modified Pt disk electrode [4]. Friedman's analysis of variance (ANOVA) followed up by Wilcoxon matched-pairs signed-ranks tests was used to analyse the CAR experiments and the microdialysis experiment was analyzed with two-way (treatment x time) repeated measures ANOVA followed by a planned comparisons test. All experiments were approved by the local animal ethics committee, Stockholm North, and the Karolinska Institutet, Sweden.
Results: RISP 0.25 mg/kg i.p. alone only caused 20% suppression of CAR, which is far below the degree of CAR suppression required to indicate a significant clinical antipsychotic effect, which is 70-80%. Addition of SNP 1, 1.5 to RISP 0.25 mg/kg dramatically enhanced the antipsychotic-like effect in the CAR test. In the mPFC, addition of SNP 1 and 1.5 mg/kg significantly enhanced the risperidone-induced dopamine output, whereas there was no difference in the NAc in risperidone-induced dopamine output after SNP was added. Furthermore, we found that an i.p. injection of 1.5 mg/kg SNP resulted in a strong and immediate but short-lasting increase of NO levels in the mPFC and the NAc.
Conclusions: The present preclinical results support the clinical observation that a single injection of SNP can rapidly and dramatically augment the clinical efficacy of antipsychotic drugs in schizophrenia, albeit within a relatively narrow dose-range. SNP selectively increased risperidone-induced prefrontal dopamine release, while not increasing risperidone-induced dopamine release in the NAc. Therefore, the antipsychotic effect of SNP seems to be achieved by enhanced prefrontal dopamine output. Based on these findings it could be expected that SNP improves cognition as D1 receptors in the prefrontal cortex play

a crucial role in cognition. Our results might imply that the very rapid and potent augmentation of the antipsychotic-like effect of risperidone by a single, low dose of SNP may be related to acute changes in brain synaptic function and morphology in pyramidal cells in the mPFC [3], and that the corresponding effects of the low dose may be potentiated by the concomitant administration of atypical antipsychotic drugs, tentatively including also ITI-007 (lumateperone), a novel investigational antipsychotic drug with low striatal D2 occupancy. In this manner, both drugs could be administered in a lower dose, reducing the risk of side effects.

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P.24 Unique Pharmacology and Clinical Evidence Supporting the Antidepressant Therapeutic Potential of Lumateperone

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Background*:* Lumateperone (ITI-007) is a first-in-class investigational agent that simultaneously modulates serotonin, dopamine, and glutamate neurotransmission, currently in clinical development for schizophrenia, bipolar depression and agitation associated with dementia.
Aims & Objectives: The aim of this study was to find out whether lumateperone has an antidepressant effect in schizophrenic patients with comorbid depression and, at the preclinical level, study the mechanism of action of its antidepressant effects using behavioral, electrophysiological, biochemical and molecular techniques.
Methods*:* We report on the unique pharmacology of lumateperone, in particular highlighting mechanisms which are supportive of antidepressant effects. We detail existing clinical data supporting antidepressant efficacy. Lumateperone has been evaluated for efficacy and safety in three late-stage trials in patients with acute schizophrenia and for safety in an open-label switching study in patients with stable schizophrenia; subgroup analyses were conducted in patients with comorbid depression. Lumateperone is being evaluated in three late-stage placebo-controlled trials in patients with bipolar depression.
Results*:* Lumateperone is a potent antagonist at 5-HT2A receptors and exhibits serotonin reuptake inhibition. Lumateperone also binds to dopamine D1 and D2 receptors acting as a mesolimbic/mesocortical dopamine phosphoprotein modulator (DPPM) with pre-synaptic partial agonism and post-synaptic antagonism at D2 receptors and as an indirect glutamatergic (GluN2B) phosphoprotein modulator with D1-dependent enhancement of both NMDA and AMPA currents via the mTOR protein pathway. Improvement in symptoms of schizophrenia was demonstrated for ITI-007 60mg. Comorbidly depressed patients experienced meaningful improvements in depressive symptoms. Lumateperone had a placebo-like safety profile and was not associated with the adverse events (e.g. weight gain, cardio-metabolic disturbances and movement disorders) typically seen with antipsychotic medications.
Conclusions*:* The pharmacology of lumateperone suggests broad and rapid control of antidepressant symptoms. Lumateperone represents a potential new approach for the treatment of a range of mood disorders.

P.25 Cyberchondria as an emerging trans-diagnostic digital compulsive syndrome: An updated systematic review and clinical case report

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Introduction: Cyberchondria (CYB), a term coined by the UK Press in the 1990s [1], represents a poorly characterized syndrome involving the urge-driven tendency to excessively seek health or illness-related information on the Internet. Intended to provide reassurance, searching is thought to end up increasing anxiety and distress, uncertainty and reinforcing CYB [2]. CYB may be differentiated from non-pathological information-seeking by compulsive characteristics [2]. A recent meta-analysis [3] found CYB to be associated with "health anxiety" broadly defined. CYB may even represent a trans-diagnostic digital compulsive syndrome. However, the extent to which CYB contributes to the psychopathology of compulsive psychiatric disorders, such as illness anxiety disorder (hypochondriasis), obsessive-compulsive and related disorders (OCRD) or other online disorders of behavioral addiction, is not understood.
Aims: We describe one of the first reported cases of a treatment-seeking patient with DSM-5 illness anxiety disorder and disabling CYB. We review the available peer-reviewed published knowledge on the association between CYB and psychiatric disorders.
Methods: Updated search of PubMed, PsycINFO, Cochrane Library. Search terms: "cyberchondria", "cyberchondriasis".
Results: 30 original research studies of CYB were found, including five involving >1500 participants since the latest known published review [3]. No consensus definition of CYB was established. Existing studies were exclusively cross-sectional and recruited from general population samples; there were no descriptions of CYB in clinical samples. Data on the epidemiology, sociodemographic and clinical characteristics and associated comorbidities were scarce. A scale has been developed to quantify CYB severity in the general population [4]. CYB was variously found to correlate with the presence of health anxiety broadly defined, obsessive-compulsive symptoms, problematic use of the internet, and other psychological constructs (intolerance of uncertainty, anxiety sensitivity, pain catastrophizing, metacognitive beliefs) [3]. Only psychoeducation was suggested as a possible therapeutic approach.

Conclusions: Research on CYB remains in its infancy. Further studies are warranted to understand CYB in terms of definition, clinical features, measurement, relationship with hypochondriasis and other compulsive disorders and therapeutic interventions.

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