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Abstracts Leaflet

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M.C. Escher "The Knot"

SO 0101. Depression, the epidemic

Jose Luis Ayuso
Universidad Autonoma de Madrid, Madrid, Spain

Depression is a common, often chronic condition leading to personal disability and significant socioeconomic costs. Published European studies indicate a point prevalence of depression in adults ranging from 4.6 to 8.8% . Relapse is common, occurring in up to 75% of cases within 10 years . Depression has an impact on the community greater than that of many chronic diseases. The most recent estimates show that depression is the leading cause of disability worldwide, and is a major contributor to the overall global burden of disease. At its worst, depression can lead to suicide. The mortality risk for suicide in depressed patients is more than 20-fold greater than in the general population.Close to 800 000 people die due to suicide every year. Suicide is the second leading cause of death in 15-29-year-olds. In addition, greater severity of depressive symptoms has been found to be associated with significantly higher risk of all-cause mortality. The burden of depression is on the rise globally. The presentation will address possible explanations for this rise and will describe the management strategies that can have effect at the population level

SO 0102. Advances in the prevention of suicidality

Zoltan Rihmer
Department of Psychiatry and Psychotherapy. Semmelweis University and National Institute of Psychiatry and Addictions, Budapest, Hungary

Suicide is very complex, multicausal human behaviour with several biological as well as psychosocial and cultural components. As it is very rare in the absence of current major mental disorders, psychiatric-medical suicide risk factors, particularly current major depression with prior a suicide attempt, are the clinically most useful predictors, especially in the presence of psycho-social and demographic risk factors. As suicidal behaviour is complex phenomenon, its prevention should be also complex.

Untreated current major mental disorders (major depressive episode: 56-87%, substance use disorders: 26-55%, schizophrenia: 6-13%) are the most powerful predictor of suicide. Recent prospective and retrospective follow-up studies clearly support the eivedent clinical observation that if patients with unipolar or bipolar mood disorder committ or attempt suicide, they do it mostly during the depressive episode (78-89%) and less frequently in dysphoric mania (mixed) mania (11-20%) but very rearly during euphoric mania or euthymia, indicating that suicidal behaviour in mood disorder patients is a state-dependent phenomenon. However, since the vast majority of psychiatric patients never commit (and more than half of them never attempt) suicide, special clinical characteristics of the illness as well as some familial, personality and psycho-social factors should also play a contributory role.

The clinically explorable predictors for suicide in major mental disorders are: 1/ Family history of suicide in first or second degree relatives, 2/ Early onset of the illness, 3/ Prior suicide attempt(s), 4/ Present suicidal ideation/few resons for living, 5/ Severe major depressive episode (particularly mixed/agitated depression, insomnia, and hopelessness), 6, Mixed affective episode, 7/ Rapid cycling course, 8/ Cyclothymic,irritable or depressive temperament, 9/ Comorbid anxiety, personality disorder or serious medical illness, 10/ Impulsive, aggressive personality features, 11/ Cigarette smoking, 12/ Adverse early life events, 13/ Isolation, living alone, 14/ Acute psycho-social stressors, icluding severe medical disorders, and 15/ Lack of family and medical support. In contrast to the fact that males are markedly overrepresented among unselected suicide victims, gender is not a significant and clinically useful predictor of suicide in patients with mood disorders.

The most powerful single predictor of suicide in psychiatric patients is prior suicide attempt and the risk of suicide sharply increases with increasing number of risk factors. However, as more than half of suicide victims die by their first attempt, it is important to explore suicide risk factors, other than suicide attempt, as early as possible and intervene prior the first suicide act. Given the dvelelopment of our knowledge in the field of suicide risk and protective factors, prediction of suicidal behaviour - at least among those who contact helth-care services - is not impossible. Several recent studeies have demonstrated that successful pharmacological and non-pharmacological management of patients with major mental disorders substantially reduces the risk of both completed and attempted suicide. The use of ketamine in the acute management of suicidal persons is also promising. Combination of pharmacological and non-pharmacological interventions is the most effective.

SO 0103. Positive and negative brain gut interactions

Timothy Dinan
Department of Psychiatry and APC Microbiome Institute, University College Cork, Cork, Ireland

Evidence is accumulating to suggest that gut microbes may be involved in neural development and function, both peripherally in the enteric nervous system and centrally in the brain. There is an increasing and intense current interest in the role that gut bacteria play in maintaining the health of the host. Altogether the mass of intestinal bacteria represents a virtual inner organ with 100 times the total genetic material contained in all the cells in the human body. However, a disordered balance amongst gut microbes is now thought to be an associated or even causal factor for many chronic medical conditions as varied as obesity and inflammatory bowel diseases. While evidence is still limited in psychiatric illnesses, there are rapidly coalescing clusters of evidence which point to the possibility that variations in the composition of gut microbes may be associated with changes in the normal functioning of the nervous system. Studies in germ-free animals indicate aberrant development of the brain monoaminergic system together with memory deficits and autistic patterns of behaviour. These deficits can be partially normalised if there is early gut colonisation.

Recent pre-clinical studies suggest that certain *Bifidobacteria* may have anxiolytic or antidepressant activity while *Bifidobacterium infantis* has been found effective in treating patients with irritable bowel syndrome.

Metchnikoff was the first to observe the fact that those living in a region of Bulgaria who consumed fermented food in their diet tended to live longer. He first published his observations in 1908 and this gave rise to the concept of a probiotic or bacteria with a health benefit. That bacteria might have a positive mental health benefit is now becoming clear. Such bacteria may influence the capacity to deal with stress, reducing anxiety, perhaps positively impacting on mood and are now called psychobiotics. Whether, they are capable of acting like and in some circumstances replacing antidepressants remains to be seen. At a time when antidepressant prescribing has reached exceedingly high levels, the emergence of effective natural alternatives with less side-effects would be welcome. It will be intriguing to investigate if psychobiotics will be beneficial in other psychiatric domains. Indeed, very recently a *Bacteroides fragilis* given early in life was

shown to correct some of the behavioural and gastrointestinal deficits in a mouse model of autism induced by maternal infection.

The mechanisms of psychobiotic action are gradually being unravelled. It has been show that *Lacobacillus rhamnosus* has potent anti-anxiety effects in animals and does so by producing major changes in the expression of GABA receptors in the brain. GABA is the most important inhibitory transmitter in the human brain and these are the receptors through which benzodiazepines such as diazepam and various anaesthetic agents act. The changes in these receptors are mediated by the vagus nerve which connects the brain and gut. When this nerve is severed no effect on anxiety or on GABA receptors is seen following psychobiotic treatment. An impact on obsessive compulsive disorder type symptoms has also been reported with a similar strain of psychobiotic. Interestingly, *Lacobacillus rhamnosus* not only alters GABA receptors in the brain but has been shown to synthesise and release GABA. There is also evidence to support the view that gut bacteria may influence the brain in routes other than the vagus nerve, for example by immune modulation and by the manufacture of short chain fatty acids.

Communication between the brain and gut is bidirectional and complex. Increased understanding of this axis and the role of the gut microbiota may aid the development of therapies not just for functional bowel disorders but for mood disorders also.

SO 0201. How should we treat primary negative symptoms in schizophrenia?

Istvan Bitter
Department of Psychiatry and Psychotherapy, Semmelweis University, Budapest, Hungary

The outcome of treatment of negative symptoms is associated with how we define those symptoms [1]. If an effect on negative symptoms is claimed, the European Medicines Agency requires specially designed studies in patients with predominant and persistent negative symptoms [2]. A number of compounds tested for the treatment of "primary" negative symptoms in schizophrenia failed to show efficacy as compared to placebo, however there are ongoing attempts to find treatment for primary negative symptoms in schizophrenia, which can be considered as a major unmet need. The objective of this presentation is to show examples of promising clinical research with new compounds in this field.

Renewed interest in dopamine D3 receptor led to clinical results with two compounds. F17464, a preferential D3 antagonist has been found superior to placebo in acute schizophrenia (3). Cariprazine, also a preferential D3 antagonist has already received marketing authorization both in the USA and in the EU for indications including schizophrenia. The results of a randomized, double blind study comparing cariprazine to risperidone support the efficacy of cariprazine in the treatment of predominant negative symptoms of schizophrenia [4].

MIN-101, a 5HT2 and Sigma 2 antagonist, demonstrated statistically significant efficacy as a monotherapy in reducing negative symptoms negative symptoms in stable schizophrenia patients [5].

There are ongoing studies for the treatment of primary negative symptoms in schizophrenia with pimavanserin, as adjunctive treatment [6]. Pimavanserin is an inverse agonist and antagonist at serotonin 5-HT2A receptors with high binding affinity and at serotonin 5-HT2C receptors with lower binding affinity. This drug has already been approved by the FDA for the treatment of hallucinations and delusions associated with Parkinson's disease psychosis.

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SO 0202. Does response in secondary negative symptoms provide any evidence of efficacy on primary negative symptoms in schizophrenia?

Hans-Jürgen Möller
Department of Psychiatry, Ludwig-Maximilians-University Munich, Munich, Germany

The differentiation between primary and secondary negative symptoms is still under scientific debate, although it seems clinically meaningful and there are standardized scales to help with this differentiation. Often instead of secondary negative symptoms the terminology persistent or predominant negative symptoms is used, to overcome some difficulties in the differentiation between primary and secondary.

In drug trials on antipsychotics generally only the efficacy on negative symptoms in the context of acute psychotic episodes is investigated. In some studies it is than evaluated by multivariate analysis whether the effect on negative symptoms is secondary to the effect on positive symptoms or whether this is really an independent (primary) effect on negative symptoms. Such an "independent/primary" effect on negative symptoms in acute episode studies is soften interpreted as giving a hint for efficacy on primary negative symptoms.

There are only very few studies investigating the efficacy on residual/ persistent negative symptoms beyond the acute psychotic episode and with presence of only minimal positive symptoms. If efficacy is proven in such specific studies, this is often interpreted as effect on primary negative symptoms.

To the best of my knowledge it is still unclear whether efficacy on negative symptoms in acute psychotic episode studies can predict efficacy on persistent or primary negative symptoms.

SO 0301. The treatment of OCD Spectrum Disorder

Naomi Fineberg[1,2,3]; E. Cinosi[1]; R. Sachdev[1]; J. Reid[1]; S. Wyatt[2]; D. Mpavaenda[1]; S. Gopi[1]; S. Kaur[1]; V. Marwah[1]; D. Wellsted[2]; L. Drummond[5,7]; I. Pampaloni[5]; David Baldwin[4]; G. Barton[6]
[1]*Hertfordshire Partnership University NHS Foundation Trust, Stevenage, United Kingdom;*
[2]*University of Hertfordshire, College Lane, Hatfield, United Kingdom;*
[3]*Cambridge University School of Clinical Medicine, Cambridge, United Kingdom;*
[4]*University of Southampton Faculty of Medicine, Southampton, United Kingdom;*
[5]*South West London and St George's Mental Health NHS Trust, London, United Kingdom;*
[6]*Norwich Medical School, Faculty of Medicine and Health Sciences, University of East Anglia, Norwich, Norfolk, United Kingdom;*
[7]*St George's, University of London, London, United Kingdom*

OCD and related disorders are distressing and disabling disorders with high rates of psychiatric comorbidity. They pursue a chronic relapsing course. Of the disorders, OCD is the most researched. Treatment with CBT or SSRI is effective in about 50% of cases. For treatment-responders, continuation of SSRI is known to provide some protection, but relapse is nonetheless common. For SSRI-resistant OCD, a number of potentially efficacious augmentation strategies have been studied, of which adjunctive low dose antipsychotic is supported by the most robust data, but again the effect is highly variable.
In this lecture, we will present new data from a randomised controlled feasibility trial suggesting that combining SSRI with CBT may be more clinically effective than either monotherapy in the short term and that SSRI monotherapy may be the most clinically effective and cost effective treatment in the longer term. However, the study draws attention to the considerable variability in response that occurs within each treatment arm. There is thus considerable scope for research to identify treatments that produce better overall clinical outcomes, and for clinical or somatic markers to guide treatment selection at the level of the patient, to achieve better individualised outcomes.
To this end, novel pharmacological compounds are under investigation, including drugs acting to modulate glutamate neurotransmission. Highly Specialized Services are helpful for the most severe and enduring cases. For these individuals, experimental somatic treatments involving neuro-modulation or ablative neurosurgery may also be considered. Treatments and services will be discussed.
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SO 0302. Update on treatment of anxiety disorders

David Baldwin
Clinical and Experimental Sciences, Faculty of Medicine, University of Southampton, Southampton, United Kingdom

A recent 'viewpoint' article on treating anxiety (Stein & Craske, 2017), focusing on management considerations for doctors who are not psychiatrists, made a series of recommendations for improving practice. These include assaying TSH levels in patients with new-onset anxiety; regular monitoring of symptom severity by use of questionnaires; physical exercise and mindfulness-based stress reduction programmes as initial treatment approaches; serial up-titration of SSRI and SNRI medications; switching after non-response following at least two weeks at the highest tolerated dosage; continuation of treatment for 9-12 months beyond symptomatic recovery; long-acting benzodiazepines in treatment-refractory patients; and potential use of yoga, meditation and massage, but avoidance of MDMA, ketamine and cannabinoids. My talk will review published studies to ascertain the level of evidence to support these recommendations.
Reference: Stein MB, Craske MG. Treating Anxiety in 2017. Optimizing Care to Improve Outcomes. JAMA; 318: 235-6

SO 0303. Managing resistance to treatment in anxiety disorders

Borwin Bandelow
Department of Psychiatry and Psychotherapy, University Medical Center Goettingen, Goettingen, Germany

Anxiety Disorders (panic disorder/agoraphobia, generalized anxiety disorder, and social anxiety disorder) can be treat successfully with psychological treatments and/or medications. Treatment recommendations are based international guidelines for the treatment of anxiety disorder [1].
There are various options for treatment-refractory patients. When initial treatment fails, the physician has to decide when to change the treatment plan. There have been only few systematic trials of treatment-refractory patients with anxiety disorders. If a patient shows non-response to treatment in adequate dose after 4–6 weeks, medication should be changed (some studies suggest an earlier change of medication). Although 'switching studies' are lacking, many treatment-refractory patients are reported to respond when a different class of antidepressants is tried (e.g. change from an SSRI to an SNRI, or *vice versa*). Also, changes within a class may be effective. First, treatment should be switched to other first-line treatments as recommended by guidelines. Then, second-line drugs or drugs that have been shown to be effective in other anxiety disorders should be tried. Augmentation strategies should only be tried after switching was not successful. There are only few controlled studies on augmentation strategies.
There are various options for off-label treatment with medications that were effective in double-blind or open studies or in case reports. With off-label treatment, medicolegal aspects have to be considered.
References:

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SO 0401. Advances in personalised treatment of depression

Alessandro Serretti
Department of Biomedical and Neuromotor Sciences, University of Bologna, Bologna, Italy

Precision medicine is a concept which is recently gaining momentum in all branches of medicine. In particular in psychiatry it is greatly needed given the huge societal costs of psychiatric disorders and given the long time needed to observe benefit from treatments and the response variability.
The future will be based on biological determinants, however while such an interesting but still not completely available aim will be reached, at present we have to rely on clinical features to

guide our individualized prescription which is currently still frequently based on personal opinion and subjective previous experiences.
More than 40 compounds are available for treating depression and a similar amount of compounds for other psychiatric disorders. The process of matching the profile of the patient with all different profiles of available compounds is therefore quite complex.
Our everyday prescribing procedure should take into consideration a number of factors such as the knowledge of the profile of available compounds versus the symptomatology profile of the subject, previous efficacy, medical comorbidities, tolerability profile, individual preferences, and family history.
The available evidence suggests that genetic factors contribute substantially to the variability in response to antidepressant treatments.
Several antidepressants already have a pharmacogenetic precaution/warning in their labeling for risk of side effects or interactions in CYP2D6 poor metabolizers. Promising genetic variants for future applications include a functional polymorphism (5-HTTLPR) in the upstream regulatory region of the serotonin transporter gene (SLC6A4) and replicated results have been reported particularly for HTR2A, BDNF, and ABCB1 genes. On the other hand, inconsistent findings were reported and innovative approaches have been pursued to overcome the limitations of candidate gene studies.
New genes have been recently identified through genome-wide association studies (GWAS), but both individual GWAS and meta-analysis did not show convincing genome-wide significant findings.
Some pharmacogenetic assays have been implemented and their clinical applicability was investigated. More than one trial suggested that a pharmacogenomic report based on CYP2D6, CYP2C19, CYP1A2, SLC6A4 and HTR2A polymorphisms may improve response/remission rates and reduce costs. Anyway, these results should be interpreted cautiously before confirmation in larger samples is achieved.
The integration of clinical data, genetic information and other biomarkers (e.g. DNA methylation, peripheral blood biomarkers such as cytokine levels) is a possible strategy to develop future predictive algorithms. Biomarkers could represent a valuable guide for depressive and anxiety disorders treatment, but they are not meant to replace clinical judgment and patients' needs.

SO 0402. Eskatamine in rapid response and long term treatment of resistant depression?

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

Clinical trials demonstrated that ketamine exhibits rapid antidepressant efficacy when administered in subanesthetic dosages. We reviewed currently available literature investigating efficacy, response rates and safety profile.
Twelve clinical trials investigating unipolar depressed patients were included after systematic literature search. Additionally literature in bipolar patients was reviewed.
Antidepressant response rates on primary outcome measures after 24 hours were 61% (average) The average reduction of Hamilton Depression Rating Scale (HDRS) was 10.9 points, Beck Depression Inventory (BDI) 15.7 points and Montgomery-Asberg Depression Rating Scale (MADRS) 20.8 points. Ketamine was always superior to placebo. Most common side effects were dizziness, blurred vision, restlessness, nausea/vomiting and headache, which were all reversible. Relapse rates ranged between 60% and 92%. Based on these findings, a consent-form for clinical application and modification in local language is included as supplementary material.
Ketamine constitutes a novel, rapid and efficacious treatment option for patients suffering from treatment resistant depression and exhibits a rapid and significant anti-suicidal effect. New administration routes might serve as alternative to intravenous regimes for potential usage in outpatient settings. However, limited duration of treatment response with high relapse rates within the first month after treatment demand for developments to prolong ketamine's efficacy.

SO 0501. Managing bipolar disorder and comorbid ADHD

Carmen Moreno
Child and Adolescent Psychiatry Department, Hospital General Universitario Gregorio Marañón, School of Medicine, Universidad Complutense, IiSGM, CIBERSAM, Madrid, Spain

Bipolar disorder and attention deficit hyperactivity disorder (ADHD) are highly comorbid prevalent psychiatric conditions. Although this comorbidity has been studied mostly in pediatric samples, more and more evidence supports its persistence in adulthood. In addition, both conditions share clinical symptoms, what makes the issue of differential diagnosis a challenging topic with implications for treatment choices and outcome. In fact, some treatment options for ADHD may worsen bipolar symptomatology and compromise bipolar disorder course in case mood stabilization has not been previously taken care of, what highlights the need of comprehensive diagnosis and careful monitoring of treatment. To enhance knowledge on this challenging issue, in this symposium we will review current knowledge on comorbidity between bipolar disorder and ADHD as well as state of the art diagnostic and treatment practices.

SO 0502. The Role of long acting injectable antipsychotis in Bipolar Disorder

Eduard Vieta
Hospital Clinic, University of Barcelona, IDIBAPS, CIBERSAM, Barcelona, Spain

Antipsychotics are widely used for the short and long-term treatment of bipolar disorder. Depot and long-acting injectable formulations (LAIs) can be particularly useful for certain subgroups of patients. This lecture will discuss the available data from randomized controlled trials of LAIs in bipolar disorder. A recently published meta-analysis and individual studies assessing depot medications, as well as modern LAIs such as risperidone, paliperidone and aripiprazole, will be reviewed, looking carefully into the prevention of either pole of illness and tolerability. Potential indications and patient profile, based on data and clinical experience, will be discussed. Very recent data from the Finish registry suggesting that lithium and LAIs may be the most effective treatments for the prevention of hospitalization in patients with bipolar disorder will be presented for the first time.

SO 0503. Update on lithium

Allan Young
Centre for Affective Disorders, IoPPN, KCL London, London, United Kingdom

Lithium was reintroduced to medicine following John Cade's seminal paper in 1949 and the pioneering work of Mogens Schou [1]. Lithium faced early scepticism from the MAUDSLEY Hospital [2] and these views persisted till quite recently [3]. Lithium is now universally agree to have robust evidence underpinning its

clinical use in mood disorders, both bipolar and unipolar [4, 5]. Lithium treatment is also associated with a reduced rate of death by suicide in mood disorder [6]. An intriguing literature has burgeoned in recent years which suggests positive health benefits from increased levels of lithium in the drinking water. Although these are trace level compared to therapeutic doses they do seem to impact health [7,8]. A major challenge is identify which patients will benefit from lithium. The lecture will end with a discussion of approaches to evaluating biomarkers of lithium response.

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SO 0601. The affective domain in schizophrenia, more than an epiphenomenon. Therapeutic implications

Celso Arango
Hospital General Universitario Gregorio Marañon. Universidad Complutense, CIBERSAM, Madrid, Spain

SO 0602. Are the criteria for licensing treatments in psychiatry in Europe too complex?

Filippo Drago
Department of Biomedical and Biotechnological Sciences, University of Catania, Catania, Italy

Approval of new drugs for psychiatric disorders is particularly challenging. One factor that contributes to this fact could be a higher failure rate for marketing authorization applications (MAAs). However, the approval rate for psychiatric products was found to be 70%, not different from the overall EMA approval rate (74%). The same study indicates that a low number of MAAs submitted could be the key factor for the low number of new approvals, due to clinical trial failures and the longer clinical development times of CNS drugs. Analyzing the clinical development programs reviewed by EMA for a new approval or a new indication of an already approved product in psychiatry, major uncertainties emerged in the outcome of drug development, with efficacy and safety issues identified in more than one-third and in more than a half, respectively. Moreover, unclear or missing clinical proof-of-concept, dosefinding or pharmacokinetics and pharmacodynamics (PK/PD) studies were reported in 37%. In terms of study design for the acute treatment phase of different clinical conditions, EMA recommends the development of three-arm studies comparing the new product with placebo and an active comparator for the treatment of different pathologies. Superiority to placebo should be demonstrated in order to ensure assay sensitivity of the study. Alternatively, a two-arm study of test and active comparator would be acceptable if provides superiority of the test product over an appropriately justified active comparator. Active-control clinical trials should be designed and powered to generate evidence of added value. However, head-to-head comparative studies could lead to the approval only of drugs that are superior to those already on the market, systematically excluding compounds that may have some advantages in terms of overall acceptability or safety. In terms of study design for the long-term treatment phase, EMA suggests the execution of two-arm placebo-controlled withdrawal studies in order to demonstrate that the treatment effect found in the acute phase is maintained over time. In these study design, responders to a new treatment in an open label trial are randomly assigned to continued treatment with the new drug or to placebo. All these regulatory requirements may increase the costs for drug development as well as have implications in terms of length of pre-marketing studies, but may allow approval of medicines that only represent a real advance in terms of benefits/risk ratio. However, EMA initiatives to provide earlier access to promising medicines through adaptive licensing and enhanced use of conditional approval could be valuable in overcome issues of CNS drug development.

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SO 0701. Which are the most important clinical predictors of treatment resistance in depression

Alexander Kautzky
Division of General Psychiatry, Medical Neuroscience Cluster, Medical University of Vienna, Vienna, Austria

Since more than 15 years, the "Group for Studies on Resistant Depression" (GSRD) has put emphasis on evaluation of clinical and sociodemographic predictors of TRD. A first study found comorbid anxiety disorders (panic disorder and social phobia), comorbid personality disorder, suicidal risk, high symptom severity, melancholic features, more than one previous hospitalization, recurrent depressive episodes, non-response to the first administered AD as well as an early age of onset before turning 18 to be predictors of TRD. Longer duration, severe depression, inpatient status, presence of suicidal risk and adverse side effects of the applied AD were subsequently demonstrated to be predictors for patients with high stage TRD, not responding to more than two AD trials. In a study on psychotic features of the current episode as well as occurrence over lifetime, these symptoms were demonstrated to impact treatment outcome. Recently, we were able to provide further evidence for these predictors of TRD in a large replication study. In synopsis, the results of the GSRD highlight symptom severity, suicidal risk, comorbid anxiety disorders and a higher number of depressive episodes over lifetime as the most relevant predictors for TRD. Multivariate signatures of these clinical variables may also enable to identify patients at risk of TRD better than by clinical expertise, providing a fast and easily applicable prediction tool for clinical settings.

SO 0702. Genetic pathways to response and resistance in depression

Chiara Fabbri
Department of Biomedical and Neuromotor Sciences, University of Bologna, Bologna, Italy

Around 30 different antidepressant drugs belonging to different classes are available, without taking into account antipsychotics and mood stabilizers that can be used as augmentation in

treatment-resistant depression (TRD). Suggestions provided by available guidelines are relatively generic and different drugs or drug combinations have the same evidence of efficacy. Few objective criteria are available to predict the risk of non-response and TRD and guide the identification of the treatment with the best efficacy/tolerability ratio in each patient.
Common genetic variants (observed in > 1% of the population) were estimated to explain ~42% of variance in antidepressant response, without taking into account the effect of rare variants. Therefore genetic variants are considered very promising biomarkers to provide personalized antidepressant treatments (e.g. prediction of TRD risk, choice of a specific drug class or dose personalization). Previous pharmacogenetic studies were often focused on the effect of single genetic variants and the most replicated findings were included in the currently available pharmacogenetic tests. Some examples are cytochrome p450 (CYP450) genes and the serotonin transporter gene, but the validity and cost/effectiveness of these pharmacogenetic tests is still unclear. Hundreds or thousands of genetic variants interacting among each other are hypothesized to influence antidepressant efficacy and side effects, thus analysis approaches able to investigate this complexity have been developed. For example, in pathway analysis the unit of analysis is shifted from single variants to all the variants in a number of genes belonging to the same pathway (e.g. genes involved in the same chemical process or cellular signaling cascade). Available findings suggested that pathways that modulate synaptic plasticity, neural survival/neurogenesis, and inflammation are involved in antidepressant response and TRD. Future pharmacogenetic tests may include a number of genetic variants in specific pathways and be able to classify each patient within a spectrum of risk of TRD and other relevant clinical outcomes such as non-response to specific antidepressant classes and side effects.

SO 0801. Advances in treatment of sleep disorders
Göran Hajak
Department of Psychiatry, Psychosomatic Medicine and Psychotherapy, Social Foundation Bamberg, Teaching Hospital of the University of Erlangen, Bamberg, Germany

It is easy to improve disordered sleep, but far more difficult to thereby assure proper daytime vigilance and well-being. Rigorous treatment of insomnia has been unequivocally accepted by sleep experts as key element to reduce the risk for somatic and psychiatric disease and to improve psychosocial functioning and performance in daily living. However, hangover effects and low benefit/risk ratio of drug treatment limit the use of sleep promoting agents. While insomnia-specific behavioural therapy is proven to be effective, it has never found its way into daily practice. Major advances in the treatment of insomnia arise from multimodal and individually targeted treatment concepts. These include specifically modified behavioural concepts such as cognitive-behaviour therapy for insomnia or sleep restriction treatment, biological approaches such light therapy or sleep rhythm therapy as well as innovative pharmacotherapy with orexin-receptor- or melatonin-receptor antagonists. Primary treatment target is daytime performance rather than subjective quality of nocturnal sleep.

SO 0802. What not to do in treating PTSD
Joseph Zohar
Tel Aviv University, Tel Aviv, Israel

Current psychopharmacological nomenclature remains wedded to earlier period of scientific understanding, failing to reflect contemporary developments and knowledge, does not help clinicians to select the best medication for a given patient, and tending to confuse patients as they are being given a drug with a different name compared to their identified diagnosis (e.g. "Antidepressants" for anxiety).
Four major colleges of Neuropsychopharmacology (ECNP, ACNP, Asian CNP, and CINP together with IUPHAR) proposed a new pharmacologically-driven nomenclature focusing on Pharmacological Domain and Mode of Action. It includes also 4 dimensions of additional information: 1—Approved Indications; 2—Efficacy and side effects; 3 — Practical note; and 4—Neurobiology. Several surveys in four different continents were conducted in order to examine satisfaction with the current psychopharmalogical nomenclature, as well as test the NbN.
It seems that most of the clinicians found the current nomenclature system dissatisfactory and many times confusing for them and the patients. The proposed nomenclature seeks to up-end current usage by placing Pharmacology and Mode of Action rather than indication as the primary driven force.
In the session examples of using the NbN-2 and NbN-ca in key medications will be presented and discussed.

P.01 Assessment of depression, anxiety & stress symptoms in caregivers of psychiatric patients

Surabhi Agarwal; Jyoti Shetty; Arun Singh
Bharati Hospital, Bharati Vidyapeeth deemed University & Medical College, Pune, India

Introduction: Caregiving is a dynamic process including the patient and a person involved in long term care of the patient. In disabling mental disorders like schizophrenia and bipolar disorder, long term care is involved, often leading to experience of depressive and anxiety symptoms in caregivers which is often ignored. There is growing body of literature on the stress and psychopathology of caregivers , poor caregiver outcomes, lack of caregiver support, and equivocal success, with interventions aimed at alleviating care-giving burden by addressing the depressive, anxiety and stress symptoms.

Aim: To Assess depressive, anxiety & stress symptoms in caregivers of psychiatric patients.

Objectives:

1. To Assess depressive, anxiety & stress symptoms in caregivers of psychiatric patients.
2. Assess gender differences in caregivers.
3. Correlation of severity & duration of psychiatric symptoms in patients with measure of caregiver burden
4. Correlation of relationship of caregiver with patient to severity of burden
5. Prevalence of caregiver burden in psychiatric illnesses.

Methodology: The participants were caregivers of patients attending the Psychiatry OPD, Bharati Hospital. After institution ethics committee approval, an information sheet containing all necessary details of the study was provided following which due written informed consent was taken. Those consenting to participate, were asked to answer a specially designed questionnaire that was scored & assessed in the Department of Psychiatry.

Study Period: This study was conducted from August 1st, 2017 to September 30, 2017.

Tools Description: Socio demographic sheet , Depression, Anxiety & Stress Scale (DASS scale) Zarit Caregiver Burden Scale.

Discussion and Results: Depressive, Anxiety & Stress symptoms were prevalent in all patients, with greater symptoms perceived by females than by males. Longer duration of illnesses were associated with greater severity of symptoms and burden perceived. Parents of patients and also the spouses experienced greater severity of symptoms & burden followed by children & siblings respectively.

***Key words*: caregiver, depressive ,anxiety, burden , psychiatric illness.**

P.02 Subjective efficacy of repetitive transcranial magnetic stimulation in pharmacoresistant depressive episodes occurring in various mental disorders: clinical observation study

Jakub Albrecht; Tadeáš Mareš; Katarína Jaššová; Jiří Raboch; Martin Anders
Department of Psychiatry, First Faculty of Medicine, Charles University and General University Hospital, Prague, Czech Rep.

Background/Aim: Repetitive transcranial magnetic stimulation (rTMS) constitutes proven therapeutic approach in the biological treatment of individuals with vast neuropsychiatric disorders. Our aim were affective disorders, depression in particular. We have evaluated subjective efficacy in the treatment of depressive episodes. We present results from an open clinical trial at Psychiatric department in Prague between 2011 and 2015.

Methods: Adult patients with severely pharmacoresistant depressive episodes (with various diagnosis based on ICD-10: bipolar affective disorder (12,5 %), unipolar depression (44,6 %), recurrent depression (14,3 %), organic depression (8,9 %) and mixed anxiety and depressive syndrome (19,64 %)) were *adjuvantly* treated and self-rated. In- and out-patients were included (in-patients 53,6 %).

Parameters. Protocol of 1.500 pulses of 10 Hz high-frequency rTMS, one session every subsequent workday in localization over the left dorsolateral prefrontal cortex (L-DLPFC, right DLPFC only in one case due to laterality) with 10 sessions on average (94,44% patients, min. 7, max. 15 sessions) at overall sum of 15.000 pulses. Energy used differed by measuring motoric evoked potential (MEP), 80% in median (min. 58 %, max. 100 %; mean 79,96%; SD 10,50) on *Magstim Rapid2®* machine.

Practice. 54 patients were clinically assessed; 3 patients (5,5 %) dropped out due to intolerance in the first day and were excluded from the sample. Patients self-rated twice, on the first day of stimulation and at the very end respectively. We used Zung Self-Rating Depression Scale. Concurrent pharmacotherapeutical strategy was not altered during the rTMS course.

Results: Patients included were in sundry subjective severity of treatment resistant depressive episodes: mean SDS score in the beginning was 71,43 (min. 44, max. 94; SD 11,10). Stimulation took place in 56 cases in 51 different patients (55,36% males). Mean age was 49,85 years (min. 26, max. 85 years; median 53,00; SD = 12,76).

General effect was concerned as difference in SDS prior and after stimulation, which was significant with mean improvement of 9,75 on SDS scale (max 45, min -20; median 10,7; SD 11,45).

Conclusions: We reached significant improvement in the perception of depressive episode in our patients. The results confirm evidence regarding the efficacy of rTMS in treatment even in routine clinical practice and further prove the positive therapeutic effect of this method, mainly in patients with comorbid personality disorder(s), moreover it is well tolerated without severe adverse effects.

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P.03 Manic symptoms in a bubble

Margarida Albuquerque[1]; Daniel Esteves de Sousa[1]; Miguel Costa[1]; Sérgio Gomes Pereira[2]; Pedro Cintra[1]
[1]*Departamento de Psiquiatria e Saúde Mental, Hospital de Cascais, Cascais, Lisboa, Portugal;* [2]*Departamento de Psiquiatria e Saúde Mental, Hospital Egas Moniz, Lisboa, Portugal*

Background/aims: Arachnoid cysts are benign congenital malformations of the arachnoid, containing clear cerebrospinal fluid, which occur in around 1% of the general population. There are some reports of associations of psychiatric symptoms and arachnoid cysts in patients. Here we report a case a of a manic episode after the traumatic rupture of an arachnoid cyst. We discuss for the possible association of the symptoms and the arachnoid cyst.

Methods: The clinical case was described based on data retrieved from the clinical file. The discussion is based on a review of scientific databases - pubmed and medscape - and relevant scientific literature concerning the issue addressed with the research terms “arachnoid cyst”; “symptomatic mania”; “arachnoid cyst and bipolar disorder”.

Results: The case of a 54 years-old caucasian female with a long term history of depressive symptoms and a previous diagnosis of major depressive disorder, recurrent episodes. Few days after a traumatic rupture of an arachnoid cyst, she began to feel increased energy and reduced need for sleep, giving money to friends recklessly and a feeling of increased self-esteem.

Conclusion: There may exist a causal relationship between the existence of an arachnoid cyst and the symptoms of a manic episode. There are some reports supporting this association. Further functional studies highlighting the relevance of cystic lesions in patients with psychiatric symptoms are needed.

P.04 Punishment and reward sensitivity in young people with depressive symptomatology

Alexandra Antonesei; Kou Murayama; Ciara McCabe
University of Reading, School of Psychology, Reading, United Kingdom

Background: Individuals with depression have dysfunctional processing of reward and punishment which could impact upon their ability to effectively use information to guide their behaviour. The aim of this study was to investigate the impact of punishment on reward processing in a probabilistic learning task in participants with high vs. low levels of depression.
Method: 60 participants (Mean age = 20.01, SD = 2.49) who scored between 0 - 7 on the Beck Depression Inventory Scale (BDI-II) were included in the low depression group (LD) and 37 participants (Mean age = 20.03, SD = 2.30) who scored between 14 - 44 were included in the high depression group (HD). Participants took part in a 3-block learning task with a differential reinforcement ratio. Unknown to the participants, the target was associated with more reward outcome (chocolate taste), while the non-target was associated with more neutral outcome (control taste); missing the target led to punishment outcome (unpleasant taste). We measured participants' accuracy to identify the target and their propensity to report the target when the non-target was displayed, i.e., false alarm rate. The false alarms prompted by previous reward for the target might show an approach bias towards the target, while the false alarms prompted by previous punishment might show an avoidance bias away from missing the target.
Results: Mixed ANOVAs models followed by simple main effect analyses and pairwise comparisons were run to investigate the effects of previous reward and punishment reinforcers on current choices. Both groups increased their target accuracy more after previous reward outcome than after punishment outcome, all $p < .01$. However, the HD group compared to the LD group increased their target accuracy more after being punished for missing the target, $p = .003$. Also, the HD group committed more false alarms after punishment outcome than the LD group, $p < .001$, but there were no differences between groups on false alarm rate after reward outcome, $p = .38$.
Conclusions: These results suggest that individuals with depression symptomatology (but not clinically depressed) might not show an overall blunted response to reward processing. However, in line with previous literature, individulas with depressive symptomatology seem to be more sensitive to punishing outcomes, e.g., showing an increase in avoidance bias at the expense of potential rewards. e.g., no approach bias.

P.05 Comparison of inflammation and grey matter volume between patients with unipolar depression and bipolar disorder

Ya Mei Bai; Pei-Chi Tu; Mu-Hong Chen; Ju-Wei Hsu; Kei-Lin Huang
Department of Psychiatry, National Yang-Ming University and Taipei Veterans General Hospital, Taiwan, Taipei, Taiwan (China)

Objective: Research evidence has shown that bipolar disorder (BD) and unipolar depression (UD) are both related to inflammatory dysregulation. Previous neuroimaging studies have shown the mood disorders are related to the abnormalities in emotional regulation and reward system. However, the study comparing the differences of pro-inflammatory cytokines and neuroimaging abnormality between patients with BD and UD are very limited.
Methods: The study enrolled the age and gender-matched patients with BD and UD. Magnetic resonance imaging Images were acquired using a 3.0-T GE Discovery MR750 whole-body high-speed MRI device. Pro-inflammatory cytokines, including soluble interleukin-6 receptor (sIL-6R), soluble interleukin-2 receptor (sIL-2R), C-reactive protein (CRP), soluble tumor necrosis factor receptor type 1 (sTNF-R1), were assessed in all subjects by enzyme-linked immunosorbent assays.
Results: In all, 30 patients with BD and 30 patients with UD were enrolled, with 21.7 % males and an average age of 42.7±12.8 years. The BD patients had significantly higher levels of sIL-2R, sIL-6R, and sTNF-R1 than the UD patients. There were significant negative correlations between sIL-2R, sIL-6R, and sTNF-R1 and gray matter volume. The BD patients had significantly reduced gray matter volume over 10 areas (Rt.Frontal Orbital Cortex, Lt.Lingual Gyrus, Lt.Cingulate Gyrus, Rt.Inferior Frontal Gyrus, Lt.Frontal Pole, Rt.Lingual Gyrus, Lt.Planum Polare, Rt.Inferior Frontal Gyrus, Lt.Heschl's Gyrus, Lt.Middle Frontal Gyrus) than the UD patients after controlling age, gender, BMI, duration of illness, and ICV. Furthermore, there were significant correlations between sIL-6R level and the 10 areas gray matter volume reduction.
Conclusion: Compared to patients with unipolar depression, the patient with bipolar disorder is more severe inflammation reaction and reduced gray matter volume; which correlated with the pro-inflammatory cytokines level. The results provided the further evidence for the inflammatory pathophysiology of mood disorder, and represent a new therapeutic target for the development of new treatments.

P.06 The EEG predictors and early change of depressive symptoms in the prediction of treatment outcome in patients suffering from depressive disorder

Martin Bares[1,2]; Martin Brunovsky[1,2]; Tomas Novak[1,2]; Premysl Vlcek[1]; Martin Hejzlar[1,2]
[1]*National Institute of Mental Health Czech Republic, Klecany, Czech Rep.;*
[2]*Department of Psychiatry and Medical Psychology, 3rd Medical Faculty, Charles University, Prague, Czech Rep.*

Background: Several QEEG parameters (prefrontal theta cordance, frontal and occipital alpha asymmetry etc.) and an early change of depressive symptoms have been considered as predictors of antidepressant response in depressive patients.The aim of the naturalistic study was to assess efficacy various QEEG parameters in the prediction of response and to compare predictive efficacy of identified QEEG parameters and early reduction of depressive symptoms at week 1 (percentage change of MADRS score; MC_1).
Methods: Patients were treated with antidepressants (SSRI-58, SNRI-46, NDRI-17, others-18) for ≥ 4 weeks. EEGs were performed at baseline and week 1. Depressive symptoms were assessed using MADRS at baseline, week 1 and the end of the treatment.
Results: Seventy-six patients (55%) achieved a response (reduction of MADRS score≥50%) to antidepressants. The prefrontal theta cordance value at week 1 (PFC_1) and its change (PFCC_1) at week 1 comparing to baseline, relative theta power at baseline and week 1 and occipital α asymmetry value at week 1 and its change at week 1 (ASAC_1) comparing to baseline were identified as predictors. PFCC_1 achieved significantly higher AUC value (0.78, 95%CI 0.70-0.85) than other neurophysiologic predictors with the exception ASAC_1 (0.67, 95%CI 0.58-0.75). There were no difference in the term of AUCs among remaining EEG predictors. The AUC of MC_1 (0.70, 95%CI 0.62-0.78) did not differ from EEG predictors. Multiple linear regression identified only MC_1, ASAC_1 and PFCC_1 as predictors. The model explained 34% of the variance of percentage change of MADRS at the end of study ($F = 22.82$; df= 3,134; $P<0.0001$).
Conclusion: The combination of neurophysiological and clinical predictors could be promising tool in the prediction of therapeutic outcome in depressive patients.
Conflicts of interest and source of funding: This study was supported by the grant of Ministry of Health of Czech Republic AZV CR 15-29900A and the project Nr. LO1611 with a financial

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P.07 Vitamin D in autistic children and depressive adults

Marie Bicikova[1]; Ludmila Macova[1]; Daniela Ostatnikova[2]; Bozena Kalvachova[1]
[1]*Institute of Endocrinology, Prague, Czech Rep.;*
[2]*Institute of Physiology, Faculty of Medicine, Bratislava, Slovakia*

Introduction: There is a handful of evidence that vitamin D plays an important role in brain and nervous system health and disease. Low pre- and perinatal vitamin D saturation may be a candidate risk factor for the later development of multiple diseases including **depression.** Child autism (ASD) is a serious mental disorder characterized by communication and social failures. Depresive symtoms as irritability and agitation are possibly comorbids in ASD. Decreased levels of vitamin D are often considered as a risk factor for ASD. While in depressive adults decreased levels of vitamin D were confirmed, there is still untided view on vitamn D status in children autism.
Method: Calcidiol was detected by the ECLIA (electrochemiluminiscent immunoassay) method consisting of two main steps: dissolving calcidiol from vitamin D binding protein and following by heterogeneous ECLIA by analyzer Roche Cobas 6000.
Subjects: Adults: The levels of calcidiol were investigated in depressive females and males, 20 persons in each group and compared with the levels of calcidiol in groups of healthy controls (24 females, 12 males). In order to avoid seasonal influences the patients and control persons were recruited throughout the whole year. ***Children:*** 45 boys, 3-7 years of age suffering from ASD and 40 healthy age-matched boys as controls were included in the study. All children were divided into groups according to season for comparison the calcidiol levels.
Results: Adults: Significantly lowered calcidiol levels were found in the group of patients with depression.
Children: In ASD and control groups were not significant differences. The calcidiol levels were lower in most of "healthy " children what is worrying fact.
Summary: Our work suggests that early inadequate vitamin D levels could be one of the several risk factors for the late development of ASD. Supplementation by vitamin D, could play positive role in reducing stress symptoms of ASD.
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P.08 Effects of repeated COX-2 inhibitor administration on synaptic transmission and plasticity in mice cortex and hippocampus

Bartosz Bobula[1]; Grzegorz Hess[1,2]; Katarzyna Stachowicz[3]; Magdalena Sowa-Kućma[3,4]; Tomasz Lenda[5]; Paulina Misztak[3,6]; Paulina Pańczyszyn-Trzewik[3]; Gabriel Nowak[3,6]; Andrzej Pilc[3]
[1]*Institute of Pharmacology, Polish Academy of Sciences, Department of Physiology, Kraków, Poland;*
[2]*Institute of Zoology, Jagiellonian University, Kraków, Poland;*
[3]*Institute of Pharmacology, Polish Academy of Sciences, Department of Neurobiology, Kraków, Poland;*
[4]*Department of Human Physiology, Institute of Clinical and Experimental Medicine, Medical Faculty, University of Rzeszow, Rzeszów, Poland;*
[5]*Institute of Pharmacology, Polish Academy of Sciences, Department of Neuropsychopharmacology, Kraków, Poland;*
[6]*Jagiellonian University Medical College, Department of Pharmacobiology, Kraków, Poland*

Alterations in the functions of glutamatergic system, been linked to the patophysiology of mood disorders. It has been known that antidepressants and COX-2 inhibitors exert modulatory effects on glutamatergic transmission in the frontal cortex (FC) and hippocampus (HIP). Present study investigated the effects of the interaction between antidepressants (imipramine) and COX inhibitor (Ns-398) on long-term potentiation (LTP) in frontal cortex and hippocampus.
Methods: C57B1/6J mice were administered NS-398 (3 mg/kg ip), imipramine (IMI) (10mg/kg ip) or both (MIX) repeatedly over 7 days. Control animals received the vehicle. Experiments were performed *ex vivo* in cortical (layer II/III) and hippocampal slices (striatum radiatum of the CA1 area). Group differences were assessed using ANOVA with Bonferroni test.
Results: The stimulus–response curves obtained for slice were fit with the Boltzmann equation *FC:*. Analyses of FPs obtained from mice receiving drug injections revealed a increase in the relationship between stimulus intensity and FP amplitude compared to control. Drugs administration resulted in a reduced magnitude of LTP compared to control (IMI - 46%, NS-398 114% and MIX 112%, $p<0.01$). Statistically significant interaction between IMI and NS-398 was found [$F=(1,59)=5645.63$, $P<0.0001$].
Hippocampus: No significant differences in the stimulus-response relationship between groups were evident. Fit with the Boltzmann equation showed incense of curve slope in MIX group [$F=(51,84)$, $p<0.001$. IMI, NS-398 and MIX administration resulted in a decrease in the magnitude of LTP compared to control preparations (131%, 114%, 122% vs. 193% in control, $p<0.01$). Two-way ANOVA revealed a significant interaction between IMI and NS-398 groups [$F(1,59)=1137.28$; $P<0.0001$].
Conclusions: A decrease in LTP magnitude in the FC and hippocampus after repeated co-administration of IMI and NS-398 suggest that COX-2 inhibitor and imipramine jointly attenuate synaptic plasticity in both brain structures. It is tempting to speculate that observed effects may represent homeostatic synaptic plasticity.
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P.09 Cognitive functioning after acute cardiac events: the role of mental fatigue

Julius Burkauskas[1]; Adomas Bunevicius[2]; Julija Brozaitiene[1]; Naomi A. Fineberg[3]; David Wellsted[4]; Robertas Bunevicius[1]; Narseta Mickuviene[1]
[1]*Behavioral Medicine Institute, Lithuanian University of Health Sciences, Palanga, Lithuania;*
[2]*Institute of Neurosciences, Laboratory of Clinical Research, Lithuanian University of Health Sciences, Kaunas, Lithuania;*
[3]*National Obsessive Compulsive Disorders Specialist Service, Hertfordshire Partnership University NHS Foundation Trust, Welwyn Garden City, United Kingdom;*
[4]*Centre for Lifespan and Chronic Illness Research, School of Life and Medical Sciences, University of Hertfordshire, Hatfield, United Kingdom*

Introduction: Fatigue is common concomitant of coronary artery disease (CAD) and predicts a poor clinical outcome. Although the mechanism for this is not known, it is hypothesized that fatigue may reflect adverse changes in cognitive function that are crucial for recovery. However, the relationship between mental fatigue and cognitive function of CAD patients remains to be identified [1].
Aim: To test the association between executive aspects of cognition and mental fatigue in a large cohort of individuals undergoing CAD rehabilitation after acute coronary events.

Method: A 5 year study included 722 CAD patients two weeks after acute myocardial infarction or unstable angina; 529 (73%) men and 193 (27%) women; mean age of 58 years (SD=9). Patients were evaluated for socio-demographic characteristics, left ventricular ejection fraction (LVEF), New York Heart Association (NYHA) functional class. The Multidimensional Fatigue Inventory (MFI-20) was used to assess mental fatigue and reduced motivation. Digit Span Test, Digit Symbol Test, Trail Making Test A and B were used to assess cognitive functioning. Participants were considered cognitively impaired or markedly fatigued if they fell below the 25 th percentile of the study population in the specific cognitive function and fatigue tests. Multiple logistic regression models were used to evaluate relationship between mental fatigue and impairment in each of the cognitive tests. Bonferroni correction was performed for multiple testing in univariate models (p<.006)

Results: Controlling for multiple comparisons and potential confounders such as age, gender, education, NYHA class, LVEF and reduced motivation CAD patients with marked mental fatigue respectively had 1.92 (95% CI, 1.30 to 2.84) higher odds for impairment in incidental learning as measured by Digit Symbol Test compared to patients with less severe mental fatigue.

Conclusions: In CAD patients two weeks after acute cardiac events mental fatigue is associated with selective impairment in incidental learning. Such failure could be expected to impair new information processing, which is crucial for patients to benefit from rehabilitation. Different CAD management strategies may therefore be needed for patients experiencing mental fatigue. Furthermore, incidental learning has also been shown to be sensitive to detecting early dementia [2]. Thus, in algorithm-based care, attention should be paid to evaluating long-term cognitive function in patients suffering mental fatigue.

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P.10 Monitorization after hospital psychiatric consultation among patients with mood and anxiety disorders

Ana Calle
Hospital 12 de Octubre, Madrid, Spain

Background/Aims: Consultation-liaison psychiatry is a Psychiatry department in charge of evaluating and assisting psychiatric pathology among patients who are hospitalized in non-psychiatric units due to other medical or surgical disease. Psychiatrists decide if the patient should start taking a psychopharmacological treatment and consider if it is necessary to continue monitorization in Mental Health medical centres after being discharged. The aim of this study is to evaluate conditions that may be associated to a greater need of ambulatory follow-up and to a better adherence among these patients.

Methods: The target sample consists of 373 patients diagnosed with mood and anxiety related pathology, which were divided into 6 groups (adaptation disorder, anxiety disorder, depressive disorder, bipolar disorder, conversion disorder and obsessive-compulsive disorder). The sample was obtained from a computer database collected at the Hospital 12 de Octubre from January 1 to December 31, 2016. Other conditions collected were age, gender and whether the patients were referred to primary care attention, abandoned or completed psychiatric ambulatory monitorization.

Results: 68,4% (n=255) of total sample was referred to primary care attention, 18,8% (n=70) completed psychiatric monitorization, 8% (n=30) died before being discharge and 4,8% (n=18) abandoned psychiatric follow-up. There was found a stadistical association (p=0,001) between diagnose and monitorization, showing the results that bipolar disorder (53,3%; n=8), conversion disorder (33,3%; n=2) and depressive disorder (29,9%; n=23) include the group of patients with more probability to be referred to a Mental Health medical centres and presented a better adherence to psychiatric monitorization. Although the association between monitorization-age (p=0,929) and monitorization-gender (p=0,065), there was found a tendency among women and patients with middle and old age to continue with a psychiatric follow-up.

Conclusions: This study shows that there are factors associated with a greater referral to psychiatric ambulatory monitorization and adherence to it, such as the diagnose of bipolar disorder, conversion disorder and depressive disorder, the female gender and middle-old age.

P.11 What difference does screening make in postnatal depression?

Tze-Ern Chua; Beverly Chia; Jintana Tang; Helen Chen
Department of Psychological Medicine, KK Women's & Children's Hospital, SG, Singapore

Background and aim: KK Hospital provides screening for postnatal depression (PND) to mothers attending routine obstetric follow-up six weeks post-delivery. This study examines whether postnatally depressed mothers who entered psychiatric care through screening differed from those who entered care through clinical referrals, in terms of illness, mother-infant bonding and socio-demographic characteristics.

Methods: Consecutive adult female psychiatric outpatients with PND have been recruited into this observational prospective study since May 2014. Entry into care was through either screening or referrals. Participants' socio-demographic and illness details were systematically recorded at baseline. Depressive symptoms were assessed with the Edinburgh Postnatal Depression Scale (EPDS) and mother-infant bonding with the Postpartum Bonding Questionnaire (PBQ). After three months of individualized treatment, the EPDS and PBQ were re-administered to assess post-treatment differences.

Results: At baseline, the 101 participants scored means of 19.5±4.7 on the EPDS and 37.0±21.0 on the total PBQ. Mean time to treatment initiation was 120.5±111.5 days. Post-treatment mean EPDS decreased to 7.4±6.0 (p<0.001) and mean total PBQ to 19.0±12.3 (p<0.001). The 68 referred (unscreened) participants were more likely to be Chinese (OR 3.8, p=0.002), have university education (OR 2.5, p=0.034) and have planned their pregnancy (OR 4.0, p=0.002). They were depressed for a longer time before treatment initiation (134.5 vs. 91.5 days, p=0.031), with a trend towards having higher baseline scores on the EPDS (20.0 vs. 18.5, p=0.133) and PBQ subscales for rejection (11.0 vs. 8.7, p=0.129) and anxiety (7.9 vs. 6.3, p=0.095). Post-treatment, they still showed a trend towards having higher scores on the PBQ anxiety subscale (4.9 vs. 3.4, p=0.075) and total (20.6 vs. 15.8, p=0.152).

Conclusions: Severe PND with disordered mother-infant bonding responded well to short-term individualized treatment. Routine

screening decreased duration of untreated illness by six weeks. Unscreened participants tended to be more depressed at baseline and experience more mother-infant bonding difficulties even after treatment. We recommend expansion of PND screening services to benefit a wider population of depressed mothers.

P.12 Early environmental enrichment restores neurotrophin-3 underexpression and compensates for the anxiety-like behavior induced by prenatal stress-hypercortisolemia in the cerebellar cortex of adolescent offspring

Isabel Cuevas; Martina Valencia; Javiera Illanes; Rodrigo Pascual
Laboratorio de Neurociencias Escuela de Kinesiología Pontificia Universidad Católica de Valparaíso, Valparaíso, Chile

Background/Aims: clinical and preclinical studies have reported that offspring subjected to chronic prenatal stress and therefore, hypercortisolemia, is highly vulnerable to suffer behavioral disorders during late childhood or adolescence. Furthermore, previous evidence indicated that changes in neurotrophin-3 (NT3) are associated to anxiety-like disorders in laboratory animals. Considering these results, the aim of the present study was to analyze whether the NT3 expression and anxiety-like behavior were altered in animals exposed to prenatal hypercortisolemia induced by synthetic glucocorticoids. Moreover, since it has been reported that early environmental enrichment (EE) can offset neuronal abnormalities, we hypothesized that early EE could compensate for the NT3 expression and anxiety-like behavior changes induced by experimental antenatal stress.
Methods: Pregnant animals were randomly classified in two groups: control-saline (CON, n=6) and betamethasone-treated (BET, n=5). Mothers of BET-P52 animals received two courses of BET subcutaneously (170 µg kg^{-1}) on gestational day 20, separated by an 8-hour interval. CON mothers received equal volume (1 ml) of saline. Immunohistochemical and western blot analysis were performed in cerebellar cortical region along with the assessment anxiety-like behavior using the elevated plus maze test at postnatal day 52 (adolescent stage). To analyze whether these neuronal and behavioral changes are prevented by environmental stimulation (EE), 50% out of both groups were exposed to early EE between P22-P39 days.
Results*:* Prenatal BET administration was related to (i) significant reduction of NT3 (ii) increased anxiety-like behavior, and (iii) early EE significantly restored the observed neuro-behavioral impairments.
Conclusions: Experimental antenatal stress, induced by the administration of synthetic GCs (BET) during the last trimester of gestation, is associated with protracted changes in NT3 expression and increased anxiety-like behavior in the offspring. It should be noted that neurobehavioral changes observed during adolescence, were minimized by early EE. These results suggest that early intervention programs have beneficial effects and could minimize the impact of prenatal hypercortisolemia associated to maternal stress.

P.13 A comparison of the United States food and drug administration (FDA) approval process, the european medicines agency (EMA) approval process, and the approval process in Asia in 2017

Pia Alexis Fernandez[1]; Francisco Javier Fletes[2]
[1]*University of Makati, Makati, Philippines;*
[2]*Tripler Army Medical Center, Honolulu, USA*

Introduction: Around the turn of the 20th century no regulations existed to protect the public from dangerous drugs. Ineffective and potentially harmful medications were sold to the public. This is not true today. The United States and Europe are recognized as enforcing the world's most rigorous drug review processes. Consumers trust the FDA and the EMA to determine what medications are safe. The Approval of these two agencies difficult to understand.
Objectives and Aims: As a provider who has practiced medicine in the United States and Asia, and has attended and presented at CME events in Europe and is in a Healthcare institution that provides care in the United States, Asia, and Europe it is clear that knowledge of available, effective medications is critical. The medical community is now global and individual juristictional knowledge is not practical. This paper aims to explain the new drug approval process of the U.S FDA, EMA, and those in Asia in a user friendly, easily accessible format for both providers and patients, and provide an easily accessible platform for searching for the most gobally approved and available medications.
Methods: Review of updated information from the FDA Orange Book, 2017, FDA publications, website, as well as review of the EMA centralized, decentralized approval process and a review of approval process through sponsorship by individual member states, registration, bridging trials, consistency trials, and the process of mutual recognition and to describe impacts on new medication approval processes in Asia.
Results: The U.S FDA and EMA medication approval processes are complex and effective and provide a model when integrated as to how to develop, evaluate, approve, and make available new medications not only locally but more globally. The processes are systematic, reprodicible, and effective.
Conclusion: As the public and providers are less constricted by internaltional borders and move freely, it is vital that information and processes to provide medical care are also portable and easily effective. A paper such as this will stimulate discussion, provide a valuable resource, and will help model a process vital and necessary in an increasingly smaller world with fewer borders.

P.14 Electroconvulsive therapy use in the presence of intracranial metallic objects

Ana Sofia Ferreira; David Mota; Filipe Almeida; Joana Andrade
Coimbra Hospital and Universitary Centre (CHUC), Coimbra, Portugal

Background: Electroconvulsive therapy (ECT) is a therapeutic modality that prevailed through time in spite of all criticism and scepticism surrounding it. Among others uses, ECT is effective for patients with depressive disorders and it is considered the most effective short-term treatment for these patients.
There are no absolute contraindications to ECT, but there are some relative contraindications listed. The presence of intracranial metallic objects is not addressed and it raises concerns towards the safety of ECT use in this condition. However, several successful cases have been reported in the past years and a growing body of literature suggests that ECT can be safely utilized in this population.
Although there is solid evidence that ECT is a safe and effective treatment for some mental illnesses, there is still significant stigma and controversy involved. The perception of the technique is poor among patients, public and even among some professionals. Education and training can help to enhance the sustainability of ECT.
Aims: To illustrate the potential of ECT in the treatment of patients with major depression even in the presence of intracranial metallic objects.
Methods: Clinical case description and literature review.
Results: A 71 years old male with intracranial metallic material diagnosed with refractory psychotic depression was proposed for ECT. A comparison between the psychometric evaluation that took place before and after the ECT sessions showed an improvement in every field assessed. The treatment was uneventful and effective. This constitutes an example of a

successful application of the ECT and its safety even in exceptional circumstances.
Conclusions: ECT is a valuable treatment modality in clinical practice with an important mood stabilizing property in the management of depressive episodes. The case presented endorses that ECT may be safely performed in the presence of intracranial metallic objects. Attending to its clinical and cost-effectiveness, as well as its safety, ECT should be recognized as an important part of mental healthcare provision.

P.15 Patterns of depressive symptoms among persons in very late life in Jamaica

Roger Gibson; Kenneth James; Norman Waldron; Wendel Abel; Denise Eldemire-Shearer; Kathryn Mitchell-Fearon
The University of the West Indies, Kingston, Jamaica

Background: The older elderly (≥75 years of age) are a particularly vulnerable population group. Determining issues and experiences that are specific to them could help to guide targeted and relevant interventions for their health issues, thus mitigating their vulnerability. The experiences of depressive symptoms may be different for older elderly when compared with younger elderly. Exploring these differences could generate knowledge that would aid in the recognition and prevention of depression among older elderly.
Method: Secondary analysis was conducted on data from a nationally representative sample of 2,943 community dwelling older persons recruited in a health and lifestyle survey in Jamaica in 2012. Embedded in the survey instrument were the Zung Self-rating Depression Scale (ZSDS) and the Mini Mental State Examination (MMSE). Participants' responses on the items of the ZSDS gave an indication of their experiences of depressive symptoms. Higher ZSDS scores represented greater intensity of depressive symptoms. The MMSE gave an indication of cognitive functioning with lower scores corresponding to lower cognitive abilities. Information on age, sex and educational level was also available for the statistical analyses. Linear regression analysis was used to determine the extent to which ZSDS score was associated with age, MMSE score and educational level. Logistic regression analysis was used to determine, for each ZSDS item, whether particular responses were associated with a specific age group (older or younger elderly).
Results: The ZSDS showed good internal consistency (Cronbach's alpha= 0.80). Higher ZSDS scores were associated with increasing age (B= 0.13, p< 0.001), lower MMSE score (B= -0.42, p< 0.001), female gender (B= 3.52, p< 0.001), and lower educational level (B= -1.27, p<0.001). The ZSDS items that were endorsed significantly more (p< 0.05) by the older elderly than the younger elderly related to negative evaluations about their functionality and value (e.g. "I find it difficult to do things I used to;" "I feel that others would be better off if I were dead"). Hopelessness was also more prominent among the older elderly than the younger elderly. The items that were endorsed significantly more (p< 0.05) by the younger elderly than the older elderly had less of a focus and included sleep disturbance, morning malaise, crying and the absence of fulfilment.
Conclusion: Increasing age was associated with more intense experiences of depressive symptoms. This finding supports the need for closer attention to depression among older elderly. Female gender, cognitive deficits, preoccupations about value and functionality, and feelings of hopelessness may serve as useful screening parameters when contemplating a full assessment for depression among older elderly.

P.16 The effect of suicide prevention for depression people with narrative nursing

Masami Hasegawa
Niigata College of Nursing, Jyouetsu, Japan

Background/Aims: There is insufficient the support system of depression people with nursing in Japan.
I felt the necessity of community-based self-help activities for depression people based on narrative approach by nurses.
The purpose of this study is to clarify the effect of suicide prevention for depression people with narrative approach by nurses.
Methods: Subjects were 20 depression people living in A Prefecture diagnosed Major Depression or Bipolar Disorders. They were the support group (SG) members. Sampling data was analyzed interaction effects at the members by ethnomethodology. We (subjects, researchers) worked together at SG. Subjects were consulted by nurses about their symptoms or worries. Consultation time was 60minites for each person with Modified Emotion Therapy. SG was setting 2hours and 2times/month.
Researchers attended SG every times and observed participant's interpersonal conversation or action. The data was collected by each consultation, observation and semi-structured interview from subjects. The data was recording with permission of subjects. Research term was from April 2016 to March 2017.
This study was started after approving from the Ethical Committee of Kanazawa Medical University.
Results: People were suffered from feelings of isolation at daily living like 'Agony due to depression symptom', 'Sadness not understanding from acquaintances'
But SG was the place to get fellow feeling for depression people like 'the place to share depression'. People were learned to talk about their pain of living with depression for each other for members or nurses. People began to monitor their obsessive patterns and tried to change their daily acting and went down their suicidal thought by narrative approach of nursing.
Conclusions: The study demonstrated subjects autonomy could be increased via role assignment and accommodated their physical conditions. But we were learned the necessity to keep the professional support because some people continued the persistent negative and suicidal thought.

P.17 "Don't look back" - Post-event processing in test anxiety

Sarah Kahl; Rapoport Rapoport; Eva Neidhardt
University Koblenz-Landau, Campus Koblenz, Koblenz, Germany

Background: Post-event processing (PEP) – a form of "repetitive self-focused thoughts" (Brozovich & Heimberg, 2008, p. 891) about one's own performance in a past situation – is known to occur in socially anxious individuals after social interactions and is supposed to maintain the anxiety in a long-term perspective (e.g. Wong, 2016). Considering the ambiguity of exam situations and the missing feedback directly afterwards (similar to social events), it is plausible to assume that PEP occurs within highly test-anxious individuals, as well. The aim of this study was to test whether PEP appears in relation to test anxiety.
Method: We used questionnaires to assess $N = 36$ psychology students' trait test anxiety about one week prior to an exam (PAF, Hodap, Rohrmann, & Ringeisen, 2011), their state anxiety right before the exam (STAI, Laux, Glanzmann, Schaffner, & Spielberg, 1981) and PEP 3 to 4 days and approximately 3 weeks after the exam (adjusted version of the PEPQ, Fehm, Schneider, & Hoyer, 2008).
Results: As expected, we found significant positive correlations between trait test anxiety and PEP 3 to 4 days after the exam as well as between trait test anxiety and PEP about 3 weeks after the exam. There was no significant difference between the PEP levels at both measuring times. Contrary to our hypothesis, there were no significant correlations between trait test anxiety and state anxiety directly before the exam nor between state anxiety and PEP. We attribute that to the missing variance in state anxiety before the exam.
Conclusion: Results suggest that PEP indeed occurs within test-anxious individuals and may – similar to social anxiety – play a

role in the maintenance of anxiety. This finding could be an important improvement in the treatment of test anxiety. There are some limitations in this study that should be faced in future research: PEP should be explored within a shorter time after the exam, and the exam should elicit different levels of test anxiety in the students.

P.18 Influence of high level of psychological vulnerability factors to bipolar disorders on a semantic mediated priming task

Mélanie Labalestra[1,2]; Nicolas Stefaniak[2]; Laurent Lefebvre[1]; Chrystel Besche-Richard[2]
[1]*Service de Psychologie Cognitive et Neuropsychologie, Université de Mons, Mons, Belgium;*
[2]*Laboratoire Cognition, Santé, Socialisation - C2S, EA6291, Université de Reims Champagne-Ardenne, Reims, France*

Background: Hypomanic personality, hyperthymic temperament and irritable temperament are considered as psychological vulnerability factors to bipolar disorders. Given that, it is known that semantic memory is impaired in bipolar patients, it is possible that semantic memory could present some abnormalities in individuals with the higher level of vulnerability factors of bipolar disorders. Although, processes impaired are not clearly identified due to heterogeneity in methods and samples in bipolar disorder studies, spreading activation is among the probable candidates for accounting this impairment.
Aims: The aim of this study was to assess spreading activation according to vulnerability factors continuum to determine whether it could be a factor of vulnerability to bipolar disorders.
***Methods*:** 61 adults (mean age 30) took part in the study. Participants were healthy volunteers. Spreading activation was assessed by mediated semantic priming implemented in a double lexical decision task. Psychological vulnerability factors were estimated by the TEMPS-A [1], the HPS [2], and the BDI [3].
Results: Semantic mediated priming is negatively associated to social vitality, to hyperthymic temperament and irritable temperament.
Conclusions: Impairment in semantic memory, and more specifically spreading activation, appear to be a cognitive factor of vulnerability to bipolar disorders. Our results can contribute to a better understanding of semantic impairment in vulnerable population and in bipolar disorder.
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P.19 Prevalence of DSM-IV major mental disorders among North Korean defectors in South Korea

Kyoung Eun Lee[1]; Ji Hyun An[1]; Hyo Chul Lee[1]; Hae Soo Kim[1]; Hye In Chang[2]; Jin Pyo Hong[1]
[1]*Department of Psychiatry, Sungkyunkwan University School of Medicine, Samsung Medical Center, Seoul, Korea,South;*
[2]*Department of Psychology, Sungkyunkwan University, Seoul, Korea,South*

Objective: With the ever-increasing number of North Korean Defectors (NKDs) entering South Korea, helping their successful adaptation to South Korean society has become a major social issues in South Korea. The aim of this study was to estimate the prevalence of major mental disorder among NKDs in South Korea using the North Korean version of Composite International Diagnostic Interview (NK-CIDI).
Methods: The study subjects, NKDs, were 294 adults (male: 62; female: 232; average age: 41.63±12.6 yrs.) registered within two years in Hana Center, the North Korean Defectors' Resettlement Centers. The North Korean version of the WHO-Composite International Diagnostic Interview (NK-CIDI) was used as an assessment tool based on the DSM-IV criteria.
Results: The prevalence of mood disorder was 28.8% in NKDs and 5.4% in general Korean population, respectively. The prevalence of anxiety disorder was 45.4% in NKDs and 9.2% in general Korean population. The prevalence of any mental disorder in NKDs was significantly higher than among general Korean population.
Conclusion: The prevalence among NKDs was much higher than the general South Korean population. Social and health policy to improve mental health condition of NKD is needed.
Key Words: North Korean defectors, Prevalence, Mental disorder, Mental health

Table 1. Sociodemographic characteristics of North Korean defectors

	North Korean defectors (N=294)	
	N	%
Gender		
Female	232	78.9
Male	62	21.1
Age		
18-29	84	28.6
30-39	76	25.9
40-49	80	27.2
50-59	49	16.6
>60	5	1.7
Marital status		
Married	115	39.2
divorced/separated/widowed	96	32.6
Unmarried	83	28.2
Education		
≤9	56	19.0
10-12(high school)	179	60.9
13(college)	59	20.1
Economics status		
Less than 2 million won	248	84.4
2 million won or more	46	15.6

Table 2. Comparison of prevalence of major mental disorder among North Korean defectors with Korean general population

	North Korean defectors (N=294)		**Korean general population (N=3,848)**	
	%	(95% CI)	%	(95% CI)
Any Mood Disorder	28.8	(23.6-34.0)	5.4	(4.6-6.3)
Major depressive disorder	25.1	(20.2-30.1)	4.8	(4.1-5.7)
Dysthymic disorder	10.8	(7.2-14.3)	1.3	(0.9-1.7)
Bipolar disorder	0.6	(0.0-1.5)	0.2	(0.05-0.4)
Any Anxiety Disorder	45.4	(39.7-51.1)	9.2	(8.2-10.3)
PTSD	22.4	(17.6-27.1)	1.4	(1.0-1.9)
Panic disorder	5.9	(3.2-8.6)	0.4	(0.2-0.7)
Agoraphobia	5.4	(2.8-8.0)	0.7	(0.4-1.1)
Social phobia	7.0	(4.0-9.9)	1.7	(1.3-2.3)
Generalized Anxiety disorder	13.0	(9.1-16.8)	2.2	(1.7-2.8)
Specific phobia	24.6	(19.7-29.6)	5.6	(4.8-6.5)
Nicotine use disorder	7.8	(4.7-10.9)	6.2	(5.3-7.2)
Nicotine dependence	6.3	(3.5-9.1)	4.8	(4.0-5.7)
Nicotine withdrawal	3.0	(1.0-5.0)	2.6	(2.0-3.3)
Alcohol use disorder	17.9	(13.6-22.3)	12.8	(11.5-14.2)
Alcohol dependence	11.3	(7.7-14.9)	4.8	(4.0-5.7)
Alcohol abuse	11.6	(7.9-15.2)	11.2	(10.0-12.6)
Any psychiatric disorder	62.1	(56.6-67.7)	25.0	(23.3-26.7)
Any psychiatric disorder(Nicotine use disorder excluded)	61.4	(55.9-67.0)	22.7	(21.1-24.4)
Any psychiatric disorder(Nicotine and Alcohol use disorder excluded)	54.7	(49.0-60.4)	12.2	(11.1-13.5)

P.20 Towards the improvement of cognitive insight in bipolar disorder

Van Camp Lynn[1,2]; Oldenburg Jonne[1,2]; Sabbe Bernard[1,2]
[1]*Collaborative Antwerp Psychiatric Research Institute (CAPRI), Antwerp, Belgium;* [2]*Psychiatric Hospital Duffel, University Department, Antwerp, Belgium*

Aims: It is found that patients suffering from bipolar disorder attain a quick syndromal recovery. Unfortunately, functional recovery seems much harder to obtain. To date, conventional treatments have only limited effects on the long-term outcome of bipolar patients. One of the reasons for this could be that patients with bipolar disorder are not enough self-reflective and are too self-certain about their judgements. In other words, they show a lack of cognitive insight. It is argued that a lack of insight could be caused by neurocognitive shortcomings. In a recent study, our research group was the first to find a link between neurocognitive functioning and cognitive insight in bipolar disorder. Because of the importance of this topic, in the current study, we will investigate the variables that accompany the acquisition of cognitive insight in time.
Methods: All participants were diagnosed with bipolar disorder and were hospitalized in the University Department of the Psychiatric Hospital Duffel, Belgium. At baseline and at three month follow up cognitive insight, illness insight, neurocognitive functioning, manic, depressive and positive symptoms were measured. In addition, the level of functioning of the patients was included. During their hospitalization they followed a psychotherapeutical program that contained cognitive remediation therapy and group sessions that focused on metacognitive training. In our preliminary analyses we included 63 inpatients with bipolar disorder. Because not all the participants showed an increase in cognitive insight, they were split in two groups by the use of two-step cluster analysis. Next, we preformed ANOVA analyses with the clusters as factor.
Results: Our analyses revealed that an increase of cognitive insight is accompanied by an improvement in working memory. Moreover, the patients that gained cognitive insight had less depressive and fewer positive symptoms at baseline measurement. In addition, they had a higher level of functioning at baseline in comparison to patients in who cognitive insight decreased or remained the same.
Discussion: The results of the current study can support psychotherapy and psychosocial interventions that intent to establish more cognitive insight in bipolar disorder.

P.21 Bipolar affective disorder and Parkinson's disease: a rare association?

Pedro Macedo; Figueiredo Ana Rita; Fornelos Antónia; Roque Marta
Centro Hospitalar de Trás-os-Montes e Alto Douro, Vila Real, Portugal

Background/Aims: To characterize the relation between bipolar disease and Parkinson, exploring a clinical case.
Methods: Case Report and the bibliographic research was concluded using the queries "Bipolar Disease" and "Parkinson Disease" in the PubMed network.
Results: A 69 years old woman with a previous diagnosis of bipolar disorder (BD), treated with lithium, start presenting Parkinson symptoms, which she maintained even after lithium suspension. The initiation of dopaminergic therapy improved the motor complaints but where followed by two manic episodes. Little is known about comorbidities of BD such as Parkinson's disease (PD). The literature suggests that bipolar disease is linked with or influences Parkinson's disease and vice versa. Recent studies have shown that patients with bipolar disorder were more vulnerable to developing PD. Pharmacotherapy for neuropsychiatric symptoms in patients with bipolar disorder comorbid with PD warrants special caution regarding its side effects. Medications, especially antipsychotics, used in patients with bipolar disorder may worsen parkinsonism of patients with PD. Drug induced psychosis and mania have been documented in patients with PD treated with antiparkinson agents including anticholinergics, dopamine agonists, and levodopa.
Conclusions: Underlying mechanisms are poorly understood, and, more importantly, no treatment options are established in such double diagnoses. Lithium, the mood stabilizer of choice for

treating manic states, is problematical for use in Parkinson patients because of its side effects. Valproate might be an alternative, especially for treatment of rapid cycling.

P.22 Delirious mania: a case report

Ana Luzia Melo; Filipe Godinho; Sofia Marques; Daniel Barrocas; Madalena Serra
Hospital do Espírito Santo de Évora, Évora, Portugal

Background: Delirious Mania (DM) is a neuropsychiatric syndrome characterized by rapid onset of delirium, mania and psychosis. Despite being a well described clinical entity, it is frequently unrecognized and misdiagnosed as acute episodes of organic delirium, which may represent a problem, considering it can progress rapidly and become life-threatening.
Aims: To present a case of a patient diagnosed with DM. To make a brief review of this topic.
Methods: We reviewed the clinical file and searched the literature using "PubMed", in the last 20 years, with keywords "bell's", "delirious" and "mania". We selected 11 articles in English.
Results: A 62-year-old-female with a 30-year history of bipolar disorder (BD) with rapid cycles, was brought to the emergency room with fluctuant periods of prostration, confusion and disorientation. She had hypophonic speech and thought slowing. Two weeks previously, she had been with expansive mood, decreased need for sleep, increased activity and speech and despragmatic behaviors. Medical, laboratory and imaging findings were clear and she was admitted to the inpatient psychiatric unit. In 3 days she became catatonic and totally dependent for daily living activities. After exclusion of an acute medical intercurrence, we admitted a diagnosis of DM. Despite having indication to immediately start Electroconvulsive Therapy (ECT), this wasn't readily available, so she was medicated with Lorazepam, with little improvement. In 4 days she started ECT and her clinical picture completely remitted. She was later discharged, oriented to outpatient follow-up with maintenance ECT (once weekly) for her BD.
Conclusions: The present management of DM consists of supportive measures, discontinuation of precipitating/aggravating medications and specific treatments - benzodiazepines (BZD) and/or ECT (if the clinical picture does not improve or progresses despite BZD treatment, or if the patient's clinical signs are so severe that immediate symptom resolution is required). DM is a severe, under-recognized and life-threatening syndrome that must be promptly suspected, as early recognition and definite treatment in the acute setting can be life-saving.

P.23 Effect of chronic Imipramine with NS-398 (COX-2 inhibitor) injection on the level of BDNF in Hippocampus and Prefrontal Cortex of C57Bl/6J mice

Paulina Misztak[1,2]; Patrycja Pańczyszyn-Trzewik[1]; Magdalena Sowa-Kućma[1,3]; Andrzej Pilc[1]; Gabriel Nowak[1,2]; Katarzyna Stachowicz[1]
[1]*Department of Neurobiology, Institute of Pharmacology, Polish Academy of Science, Krakow, Poland;*
[2]*Department of Pharmacobiology, Jagiellonian University Medical College, Krakow, Poland;*
[3]*Department of Human Physiology, Institute of Clinical and Experimental Medicine, Medical Faculty, University of Rzeszow, Rzeszow, Poland*

Background: There are evidence for the reduction of the BDNF level in both brain and plasma level in major depressive disorders [1,2,3]. Also, it is known, that antidepressants can rescue BDNF level in hippocampus, what is correlated with appropriate therapy respond. Finally, the antidepressant therapy may produce long-lasting first response, but also accompanied with side effects. Combined therapy may be potential resolution of these problems. The purpose of this study was to examine the level of precursor(pre-) and mature BDNF in Prefrontal Cortex(PFC) and Hippocampus(HP) after Imipramine and NS-398 administration or/in combination pattern.
Methods: NS-398(3mg/kg) and imipramine(10mg/kg) were administrated(*i.p.*) to C57Bl/6J mice alone or in combination for 7 days. 60min after last injection for biochemical analysis PFC and HP were collected. The mature BDNF and pre-BDNF proteins were determined by Western blot. Group differences were assessed using Tow-way ANOVA followed by Bonferroni multiple comparisons post hoc test and $p< 0.05$ was considerate as statistically significant.
Results: Administration of mix Imipramine+NS-398(IMI+NS) caused statistically significant increases in mature as well as pre-BDNF in PFC (by 59%p=0.01; by 98% p=0.0002 respectively) and HP (by 84% p=0.001; by 80% p=0.0001). We observed also increasing effect in mature BDNF at IMI groups (by 65% p=0.01) in PFC and in pre- BDNF at NS groups (by 41% p=0.01) in HP. Nevertheless Two-way ANOVA indicate no significant interaction between NS+IMI group in pre-BDNF in PFC ($F(1.32)=0.41647$ $p=0.52330$; $F(1.32)=2.0651$ $p=0.160$ respectively). However, in HP we revealed interaction between NS+IMI group ($F(1.36)=4.87$ $p=0.0337$).
Conclusions: Our result showed that mix IMI+NS administration, caused increase in the level of pre- and mature BDNF in PFC and HP. It seems that mix IMI+NS may stimulate transcription and translation of BDNF what is necessary for appropriate antidepressant therapy respond.
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P.24 Cognitive functioning in child and adolescent offspring of parents with bipolar disorder

Tomas Novak[1]; Antonin Sebela[1]; Marketa Mohaplova[2]; Michaela Viktorinova[1]; Michal Goetz[2]
[1]*National Institute of Mental Health, Klecany, Czech Rep.;*
[2]*Department of Paediatric Psychiatry, Motol University Hospital, Prague, Czech Rep.*

Background: Deficits in verbal memory, verbal fluency, executive functions, processing speed, response inhibition, and social cognition seem to be a plausible neuropsychological markers for risk of developing bipolar disorder (BD). Offspring of parents with bipolar disorder (OBP) are in substantial risk of BD, thus, identifying early cognitive risk markers in these children and adolescents is essential challenge.
Methods: Forty-three OBP (40% girls; 12.5±3.2 yrs) and 43 gender- and age-matched control offspring (OHP) with comparable intelligence (115.1±15.7 vs 116.5±14.2; Raven´s Progressive Matrices) were assessed using the Kiddie Schedule for Affective Disorders and Schizophrenia (K-SADS) for presence of DSM-5 diagnoses Subsequently, they were tested for verbal fluency and memory, psychomotor speed, attention, executive functions and social cognition by the Developmental Neuropsychological Assessment battery (NEPSYII), the D2 test of Attention, and the Amsterdam Neuropsychological Tasks (ANT).
Results: Thirty-three of OBP (77%) and 10 controls (23%) met the criteria for at least one current DSM-5 diagnosis ($p<0.001$; OR=8.10) with mood disorders, anxiety disorders and ADHD as the most frequent diagnoses. Despite extensive morbidity in OBP group we did not find significantly worse performenace in any cognitive domain even when controlled for intelligence and

other potentially confounding factors with standardized between-group differences ranging from 0.02 to 0.33.
Conclusions: Contrary to some of previous findings, we failed to comfirm that cognitive performance might be a promising marker or endophenotype for bipolar disorder.
Acknowledgment: Study was funded by the Ministry of Health of the Czech Republic grant nr. 17-32478A. There is no other conflict of interest.

P.25 Switching between different modalities of Electroconvulsive Therapy (ECT): A naturalistic observational study in Singapore

Li Keat Oon; Hatta Santoso Ong; Phern Chern Tor
Institute of Mental Health (IMH), Singapore, Singapore

Introduction: In 2015, the electroconvulsive therapy service (ECT) at the Institute of Mental Health (IMH) in Singapore underwent an extensive revamp. One of the major changes was the expansion of electrode placement & pulse-width to include the options of: bitemporal (BT), bifrontal (BF), right unilateral (RUL) and ultra-brief right unilateral (UB-RUL). There is emerging evidence in literature about the advantages and disadvantages of different modalities of ECT with respect to efficacy, side effects, and effect on cognitive function. In daily practice, it is not uncommon for clinicians to switch from one modality of ECT to another during a course of ECT treatment. However, there is very limited data in literature which adequately describes the current practices of switching between different modalities of ECT.
Objective: In this study, we sought to characterize the current practice in IMH with regards to switching between different modalities of ECT.
Methods: We went through the electronic health records and ECT records of all patients in IMH who was initiated on an ECT treatment cycle in the year 2016. These patients were initiated on 1 of the 4 ECT modalities: BT, BF, RUL and UB-RUL. For each patient, we examined the records for each ECT session in the treatment cycle, looking out for switching between ECT modalities, and the documented reasons behind each switch.
Results: There were a total of 302 treatment cycles of ECT initiated in 2016. 55 (18.21%) of them involved switching from one modality of ECT to another. 16 cycles had more than 1 switch per cycle (12 with 2 switches, 3 with 3 switches, and 1 with 4 switches) while the other 39 had only 1 switch within each cycle. This added up to a total of 76 switches. 3 most common types of switches were: BF to BT (n = 20), BT to BF (n = 12), and UB-RUL to BF (n = 10). Only 27 (35.53%) out of the 76 switches had clearly documented reasons behind the switch. 3 most common reasons documented were: limited improvements (n = 17), no seizure (n = 4), and poor quality of seizure (n = 2).
Conclusions: To the best of our knowledge, this is the first naturalistic observational study characterizing the practice of switching between different modalities of ECT in a tertiary mental health institution. This study opens the door for additional studies to further characterize ECT switching, and examine differences between treatment cycles which included a switch and those which did not, with respect to efficacy, side effects and adverse effects to cognition.

P.26 Prenatal stress alters the expression synaptic proteins and anxiety-like behavior in adolescent offspring

Jose Pascual; Martina Valencia; Javiera Illlanes; Isabel Cuevas
Neuroscience Laboratory, School of Kinesiology, Faculty of Sciences, Pontificia Universidad Católica de Valparaíso, Valparaíso, Chile

Background: It has been reported that the medial portion of cerebellar cortex is involved in emotional regulation and is highly vulnerable to early stressful experiences. At respect, in previous studies we have observed that prenatal stress (PS) produces long-term anxiety-like behaviors and delayed cerebellar Purkinje cell maturation of the progeny. However, it is unknown whether PS produces synaptic cerebellar changes. Thus, in the current study we evaluate the effect of PS on the synaptic marker proteins synaptophysin (Syn) and postsynaptic density-95 (PSD-95), along with anxiety-like behaviors.
Methods: All procedures were in accordance with the "Guide for the care and use of laboratory animals" (Institute for the Care and Use of Laboratory Animals, National Research Council, Washington DC, 2011). At gestational day 20 (G20), twelve pregnant rats were randomly classified in two experimental groups: control-saline (CON) and betamethasone-treated (BET, s.c. 0.17 mg/kg). When offspring reach "adolescence", i.e. at 52 postnatal days (P52), CON and BET male offspring were behaviorally assessed using the marble-burying test (MBT), euthanized and cerebella were immunohistochemically analyzed.
Results: Data obtained shows that BET animals exhibit significant reductions in the expression of Syn in close association with anxiety-like behavior compared with aged-matched controls. PSD-95 did not show significant differences between BET and CON groups.
Conclusions: Consistent with previous data, PS is related with long-term presynaptic changes (Syn underexpression) in vermal cerebellar neurons, associated with a significant emotional deregulation, supporting the role of the cerebellar vermis in emotional functions.
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Conflicts of interests: The authors declare no conflicts of interest.

P.27 Prevalence of depression among patients with cerebrovascular accidents- in a stroke unit of a developing country

Sumudu Rajapakse[1]; Varuni De Silva[2]; Padma Gunarathne[2]
[1]*The Townsville Hospital, Townsville, Australia;*
[2]*National Hospital Sri Lanka, Colombo, Sri Lanka*

Background: Depression is a serious, common yet largely undetected complication of stroke, seen in at least 30-40% of stroke survivors
Aim: To identify the prevalence of depression among patients with cerebrovascular accidents at stroke unit and stroke clinic at National Hospital Sri Lanka and to calculate its prevalence in relation to gender and degree of depression. To calculate the prevalence of antidepressant use among stroke survivors in clinical practice.
Method: All the patients diagnosed with cerebrovascular events and being treated at stroke unit or being followed up at stroke clinic, National hospital Sri Lanka during one month to one year of a stroke, were assessed with CES-D scale and a structured, interviewer-administered questionnaire.
Patients with aphasia were excluded from the study.
Results: 58 stroke patients consisting of 36 males and 22 females were included in the study. Mean age was 52.4years. Stroke consisted of 33% of lacunar infarctions, 26% of large artery infarctions, 17% of intracerebral hemorrhages and 24% of other types.
27.6% of the patients were depressed with mild to moderate depression in 24.1% and severe depression in 3.45%. Prevalence among males was 25% (9 out of 36) while that of females was 31.8% (7 out of 22). There was no statistically significant difference in the prevalence of post stroke depression in males and females. (X^2= 0.32, P>.05)
6 out of 58 patients were already on an antidepressant but 87.5% (14 out of 16) depressed patients were not detected.

Conclusions: Prevalence of post stroke depression among patients at stroke unit and stroke clinic at National Hospital Sri Lanka is 27.6%. 3.5% were severely depressed and majority of depressed patients were not detected during follow up.
We need to actively look for symptoms of depression in stroke survivors, to detect and treat in order to promote functional recovery and to enhance their quality of life.

P.28 The benefits of worrying - new findings in test anxiety and procrastination

Olga Rapoport; Sarah Kahl; Eva Neidhardt
University of Koblenz-Landau, Koblenz, Germany

Background: Feelings of anxiety due to a test situation have been shown to be pervasive among university students (Pekrun, 2000). Various studies reveal negative emotions such as fear to entail negative consequences like lower school performance and creativity (Chapell et al., 2005). Furthermore, test anxiety is known to decrease academic motivation and is often related to lower self-esteem (Raufelder, Hoferichter, Schneeweiss, & Wood, 2015). However, fear can also have an influence on behavior and intention (Witte & Allen, 2000). As such, it seems reasonable for students with high test anxiety to work more in order to achieve a better result and to keep themselves from procrastinating while learning.
Method: The present study is the first measurement of an on-going longitudinal study. Among other psychological measures, trait test anxiety (PAF; Hodap, Rohrmann, & Ringeisen, 2011) and procrastination (APROF; Höcker, Engberding, & Rist, 2013) were assessed in 148 undergraduate students.
Results: The results show a negative correlation (r = -.329, p < .01) between "procrastination" and the subscale "worries" of the PAF, which includes "self-doubt" and "anxiety to fail". In addition, there is a positive correlation between "procrastination" and the PAF subscales "lack of confidence" (r = .173, p < .05) and "interference by thoughts" (r = .203, p < .05).
Conclusions: These results reveal that students suffering from worries regarding examination tend to procrastinate less. Accordingly, anxiety could be a motivator for more effort. However, if they perceive a lack of confidence or are distractible, they tend to procrastinate more. These results indicate the existence of a moderating influence of for example different perceptions of fear. Appeals of fear were shown to increase the motivation of students and to lead to higher academic self-efficacy, if perceived as challenging. At the same time, fear can lower motivation if perceived as a threat (Putwain, Symes, & Remedios, 2016). The present study indicates that the relationship between anxiety and procrastination might be more complex than depicted in other studies.

P.29 Assessment of depression & anxiety associated with dermatological conditions

Arun Sain; Surabhi Agarwal; Jyoti Shetty
Bharati Hospital, Bharati Vidyapeeth deemed University & Medical College , Pune, Pune, India

Introduction: Depressive disorders are common in the population affected with dermatologic disorders and often adequate attention is not given to their experienced symptoms. The development of depression and dermatologic diseases in one patient is quite an unfortunate combination in which both of the disorders are aggravated by being in a circulus vitiosus and thereby mutually obstructing the healing process particularly if they are treated individually or if neglected in the therapeutic approach. Psychodermatology is a current concept combining both the sciences of dermatology and psychiatry because both clinical presentation and therapeutics tend to overlap.

Objectives:

1. Assessment of prevalence of depressive, anxiety , stress symptoms in patients with dermatological illnesses.
2. Correlation of occurrence of depressive , anxiety , stress symptoms with gender of patient .
3. Correlation of occurrence of depressive, anxiety, stress symptoms with duration of diagnosed dermatologic condition.

Methodology*:* This was a Cross Sectional , analytical study conducted among patients attending the Dermatology OPD at Bharati Vidyapeeth Deemed University Medical College and Research Centre; a private tertiary care hospital in Pune , India . After institution ethics committee approval, an information sheet containing all necessary details of the study was provided following which due written informed consent was taken. Those consenting to participate , were asked to answer a specially designed questionnaire that was scored & assessed in the Department of Psychiatry.
This study was conducted from August 1st, 2017 to September 30, 2017.
Tools Description: Socio demographic sheet , Depression, Anxiety & Stress Scale (DASS scale), Ferran's and Power's Quality of Life Index (Generic Version).
Discussion and Results*:* The results demonstrated presence of psychological symptoms in all patients with dermatological conditions. Most of the patients experiencing psychological symptoms were those with diagnosis of psoriasis, followed by acne and vitiligo . The results also showed that females had a greater percentage of psychological symptoms . With respect to the duration, greater severity of depression and stress was associated with the longer duration of illnesses which had a higher negative outcome in the general quality of life.

P.30 Shahin mixed depression scale (SMDS); a novel tool that captures unofficial mixity in depression

Islam Shahin
Shahin Mood Disorder clinics, Cairo, Egypt

Background: In empirical studies, the frequency of mixed states similar to the DSM-5 definition ranges from 0 to 12% . In contrast, using a definition that includes irritability, psychic or motor agitation as central features of mixed depression, frequencies have been found ranging from 33 to 47%. Koukopoulos proposed, for depressive syndromes with psychomotor agitation, the traditional name of 'agitated depression' as in Research Diagnostic Criteria (RDC). For mixed depressive syndromes without motor agitation, he proposed the name 'mixed depression'. By not capturing patients with these unofficial mixity symptoms, such patients will receive antidepressants, which will worsen the agitation of this condition.
Aim and method : Aim was to validate a tool capturing such unofficial mixity.The tool comprises two subscales; one of which assesses agitated depression of RDC with a cutoff score ≥ 2. The other subscale assesses mixed depression as proposed by Koukopoulos with a cutoff score ≥ 3.The sample consisted of 80 unipolar depressed patients [using patient health questionnaire-9 (PHQ-9) with a score ≥ 15,and mood disorder questionnaire (MDQ) with a score < 7] , recruited from my private mood clinics by systematic randomization.The gold reference standard was the improvement on Olanzapine in terms of both mixity(SMDS <2 or <3) and the depression itself(PHQ-9 <10). Statistical analysis was performed with the SPSS V. 20.0 software.
Results: Females represented 77.5%. The mean age was 35.78±8.52 with a range of (21-54 years).

Symptoms were distributed as:

		N	%
Symptom type according to SMDS	Agitated	**10**	**12.5**
	Mixed	**27**	**33.75**
	Simple depression	**43**	**53.75**
	Total	**80**	**100.0**

Diagnosis:

		N	%
By improvement on Olanzapine	Not	**44**	**55.0**
	Mixed	**36**	**45.0**
by SMDS	Not	**43**	**53.8**
	Mixed	**37**	**46.2**
	Total	**80**	**100.0**

Depression after treatment:

PHQ-9 score	N	%
<10	**36**	**45.0**
>10<15	**2**	**2.5**
>15	**42**	**52.5**

Association and agreement of SMDS:

			Mixed by improvement on Olanzapine		X^2	P	Kappa agreement
			-VE	+VE			
Mixed by SMDS	**-VE**	**N**	**40**	**3**	**54.3**	**0.00****	**0.84**
		%	**90.9%**	**8.3%**			
	+VE	**N**	**4**	**33**			
		%	**9.1%**	**91.7%**			
Total		**N**	**44**	**36**			
		%	**100.0%**	**100.0%**			

Validity of SMDS:

Sensitivity	Specificity	+VE predictive value	-VE predictive value	Accuracy
91.7%	**90.9%**	**89.1%**	**93.02%**	**91.2%**

Conclusions: Capturing patients with unofficial mixed depressive symptoms as proposed by Koukopoulos is of great clinical importance , given their therapeutic implications. SMDS is a valid tool that captures these symptoms with high sensitivity and specificity.

P.31 Long acting injectable antipsychotics in bipolar disorder: a 2-year prospective cohort study

Carla Spínola[1]; Daniel Neto[1,2]; Maria Emília Pereira[1]; Joaquim Gago[1,2]
[1]*Department of Mental Health - Centro Hospitalar Lisboa Ocidental, Lisboa, Portugal;*
[2]*NOVA Medical School - UNL, Lisboa, Portugal*

Aims: Compare the efficacy of long acting injectable antipsychotics (LAI) in bipolar disorder
Methods: We conducted a two-year prospective cohort study in a community mental health team (*Oeiras* council, around Lisbon). Patients with type I bipolar disorder, aged 18 years and above, followed during 2015 and being treated with LAI were selected. We randomly select a matching control sample (sex, education, duration of illness and hospital admissions). Concomitant medications such as mood stabilizers, antidepressant or anxiolytics were considered. The clinical outcomes were hospitalization for any mood episode and emergency department visits. Non-parametric tests were used for statistical analysis.
Results: We followed 154 patients with bipolar disorder and 21 met the inclusion criteria. In the LAI group, we had a sample of 67% males, mean age of 39, mainly working (52%), with 6,7 years of illness duration, 33,3% with at least one psychiatric admission (mean length of hospital stay of 17 days). After a 2-year follow-up, the LAI group showed a reduced admission rate (LAI group, P=0.025; control group, P=0.103). This difference was also found in the days of hospitalization rate (LAI group, P=0.018; control group, P= 0.237). The emergency department visits had no statistical difference from baseline (LAI group, P=0.212; control group, P=0.166). The psychiatric appointments showed a significant reduction (LAI group P=0.016; control group, P=0.015).
Conclusions: given the fact that bipolar patients recurrently abandon the medication, there is a growing evidence for the use of LAI, both first and second-generation antipsychotics. We found that patients with LAI at baseline had a significant decrease in the rate of admissions and psychiatric assessments over a two-year period.
LAI may be useful to reduce hospital admissions in bipolar I patients, but further studies are needed to investigate residual symptoms, quality of life and functionality.

P.32 Changes in serotonin and noradrenaline level in C57Bl/6J mice brain after chronic co-treatment of imipramine with NS398 (COX-2 inhibitor)

Katarzyna Stachowicz[1]; Magdalena Sowa-Kućma[1,2]; Tomasz Lenda[3]; Paulina Misztak[1,4]; Patrycja Pańczyszyn-Trzewik[1]; Gabriel Nowak[1,4]; Andrzej Pilc[1]
[1]*Institute of Pharmacology, Polish Academy of Sciences, Department of Neurobiology, Krakow, Poland;*
[2]*Department of Human Physiology, Institute of Clinical and Experimental Medicine, Medical Faculty, University of Rzeszow, Rzeszow, Poland;*
[3]*Institute of Pharmacology, Polish Academy of Sciences, Department of Neuropsychopharmacology, Krakow, Poland;*
[4]*Jagiellonian University Medical College, Department of Pharmacobiology, Krakow, Poland*

Background and Aims: Growing body of evidence indicates immunological involvement in depression[1]. Furthermore, chronic treatment with imipramine leads to increased arachidonic acid turnover and increased brain activity in rats[2]. We showed previously, involvement of COX-2 pathway in

antidepressant-like effects after chronic imipramine treatment in mice. The aim of this study was to verify changes in serotonin(5-HT) turnover and noradrenaline(NA) level in prefrontal cortex(pFC) and hippocampus(HP) of mice, after chronic co-treatment with imipramine and NS398.

Methods: C57Bl/6J male mice were co-treated with imipramine(10 mg/kg; *i.p.*) and NS398(3 mg/kg; *i.p.*) for 7 or 14 days. 24h after last injection, Hp and pFC were collected. The tissue 5-HT, NA and 5-HIAA levels were measured using P680 HPLC system(Dionex, USA). Data presented as the mean±SEM, using one-way ANOVA(n=7-9,Newman-Keuls test), $p<0.05$ was considered as statistically significant.

Results: 7-days co-treatment with imipramine and NS398 resulted in significant increase in 5-HIAA level in pFC and Hp (by 50% and 63%, respectively; $p<0.05$). Furthermore, 21% and 29% decrease in 5-HT turnover in pFc and Hp, was found($p<0.05$, $p<0.01$ respectively). Comparative analysis between 7 and 14 days showed 34% increase in pFC and 44% decrease in Hp 5-HT level($p<0.05$, $p<0.01$ respectively). Comparing 5-HT and NA level, 7 days of co-treatment resulted in 29% of difference in Hp level($p<0.01$), with any changes in pFC, but 14 days of co-treatment resulted in 30% increase and 51% decrease in 5-HT level in pFC and Hp, respectively comparing with NA level($p<0.01$, $p<0.0001$ respectively).

Conclusions: Our findings revealed that, chronic co-administration of imipramine with NS398 resulted in changed 5-HT turnover followed by increase in 5-HT metabolite. Furthermore, changes in 5-HT/NA balance was found. This kind of modulation seems to be interesting in depression and widely considered psychopharmacology field.

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P.33 Clinical psychopathological and pathopsychological features of suicide among women

Fidan Suleymanli[1]; Nasimi Vahabov[2]; Ramil Huseynzade[1]; Orkhan Isgandarov[1]; Nargiz Mushtagzade[1]
[1]*Azerbaijan Medical University, Baku, Azerbaijan*
[2]*Department of Psychiatry, Azerbaijan Medical University*

Suicide – is a medico-social problem seriously affecting the demographic situation all over the world. According to the results published by WHO, suicide is one of three leading causes of death among people aged between 15 and 34 years old.

Research objective: To study patterns in development dynamics and formation of suicidal behavior among females.

Methodology of the study: The study is based on examination of 30 women who attempted suicide in the past, conducted in the Toxicology Department of the Medical Center No. 1 in Baku, Azerbaijan. Each patient was interviewed and their response was used to fill in a questionnaire. Thereafter, the responses were analyzed using Beck's depression scale and Tzung's depression scale.

Results: Women aged between 15 and 24 years old made up the majority of the examined (47.1%). Those aged between 25-34 years old comprised the second largest group (23.5%).

When it comes to marital status, a majority consisting of single women was clearly observed (52.9%), while the proportion divorced women was only 5.9% among those who were examined. Interviews with the married women (41.2% of all subjects) suggested that their inability to get divorced due to fear of social stigma might have been an important factor driving them to suicide.

Social status of the examined women was as follows: unemployed (64.7%), employed (17.6), students (5.9%), retirees (5.9%), and pupils (5.9%).

After grouping the subjects based on their educational backgrounds it was observed that as the education level of the women increased, their respective groups became smaller. Women with at least one university degree made up only 11.7% of those who attempted suicide, while women with only a secondary school degree accounted for 41.2% of the examined.

Results of application of Beck's and Tzung's depression scales were as following:

- Looking at personal conflicts experienced in daily life by those who were examined, it was observed that 29.4% and 35.3% of subjects, at the time they attempted suicide, were in a conflict with their parents and wives/husbands, respectively.
- The proportions of those who repented and didn't repent were nearly the same (47.1% and 52.9%, respectively).

The results of the research show that majority of the women who attempted suicide did so because of a mental trauma created after experiencing certain problems in their day-to-day lives. Moreover, most of the suicide initiatives were intended not to result in death, but to serve as a demostration so that they can defend temselves in a family conflict or to influence another person in order to achieve a particular goal. Among the women for whom the former was the case, BAP's depression phase was seen, while among the women for whom the latter was the case a dissociative-conversive violation was clearly observed.

Conclusion: The research identified the level of education, employment situation, presence of conflicts in family, fear of social stigma (among others) to be important factors in determining likelihood of women attempting suicide. It is suggested that these conclusions can be used to create gender-differentiated methods for preventing suicide specifically aimed at women.

P.34 Alcohol consumption in Austrian medical doctors

Dietmar Winkler; Alexander Pfaffeneder; Siegfried Kasper; Edda Pjrek
Department of Psychiatry and Psychotherapy, Medical University of Vienna, Vienna, Austria

Objective: Alcohol is one of the leading exogenous causes for ill health and premature death in Europe. Austria is one of the largest consumers of alcohol per capita in Europe [1]. The aim of the present study was to examine the pattern of alcohol consumption in Austrian medical doctors.

Methods: A telephone survey was performed including 400 random medical doctors in Austria. We made sure the sample was balanced for sex. The number of participants from each federal state was determined according to the number of citizens in this state. Participants were divided in two subgroups: the conservative disciplines consisted of general medicine, internal medicine, psychiatry, and neurology. The surgical disciplines consisted of surgery, traumatology, orthopedics and gynecology. Our questionnaire included questions to assess alcohol consumption on the previous day and the four questions of the CAGE questionnaire [2]. We compared our results to published results of the Austrian general population [3].

Results: 131 participants (32.8%) completed the interview. 61 participants (46.6%) answered the question about having consumed alcohol on the previous day in the affirmative. 3.8% of the subjects had a CAGE score of 2 or higher indicating a problem with alcohol. Doctors in rural areas had drunken alcohol on the previous day more frequently (68.2%) than their colleagues in urban areas (42.2%, $p=0.035$) and the number of Austrian standard drinking units [4] consumed on the previous day was higher in rural areas (0.86±0.71 vs. 0.52±0.69 units; $W=1525.5$, $p=0.025$). No statistically significant differences in alcohol consumption on the previous day or elevated CAGE scores were found by sex and between conservative and surgical disciplines.

There was a positive correlation between age and the number of standard drinking units on the previous day (τ=0.148, p=0.037) and age with CAGE scores (τ=0.228, p=0.002). Furthermore, subjects who had consumed alcohol on the previous days scored significantly higher on the CAGE (0.38±0.84 vs. 0.04±0.20; W=1729, p=0.001). The rate of medical doctors who consumed alcohol on the previous day (χ^2=2.817, df=1, p=0.093) and the rate of subjects with elevated CAGE scores (χ^2=0.027, df=1, p=0.870) was not statistically different from numbers reported for the general population.

Conclusions: The rate of Austrian medical doctors with problematic alcohol consumption measured with the CAGE test is comparable with the general population. Our study identifies groups of higher risk for alcohol abuse such as doctors working in rural areas and older medical doctors.

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P.35 Seasonal prescription pattern of antidepressant medication

Edda Winkler-Pjrek[1]; Reichardt Berthold[2]; Georg S. Kranz[1]; Siegfried Kasper[1]; Dietmar Winkler[1]
[1]*Department of Psychiatry and Psychotherapy, Medical University of Vienna, Vienna, Austria;* [2]*Sickness Fund Burgenland (BGKK), Eisenstadt, Austria*

Objective: The prevalence of seasonal affective disorder (fall-winter type) lies between 1.9% and 2.4% in Austria depending on the diagnostic criteria used (Pjrek et al., 2016). However, it is unknown how many of these patients receive antidepressant treatment. The aim of the present study was to estimate the number of patients with a seasonal prescription pattern of antidepressants, which might be taken as a surrogate marker for medicated SAD patients.

Methods: A retrospective analysis of prescription data of all patients insured by the Sickness Fund Burgenland (BGKK) between 2005 and 2016 was performed. During this time frame a mean number of 195,135 persons (68.4% of the inhabitants of the Burgenland) were insured by the BGKK. Patients with treatment initiation of an antidepressant between the beginning (1st October) and the end (31st March) of the fall/winter season for at least two consecutive years were selected. Patients with continuation treatment during 1st July and 30th September and patients with initiation of antidepressant medication between 1st April and 30th September were excluded. This definition of seasonal prescriptions was termed SAD-med.

Results: During the 12 years of analysis, a total of 58,138 patients (29.8%) had received at least one prescription of an antidepressant. The mean yearly prescription rate of antidepressants was 9.6% of all insured persons. We found 1750 patients (3.0% of treated patients and 0.90% of all insured cases) satisfying the definition of SAD-med. 79.0% of these patients had seasonal prescriptions for 2 years, 15.7% for 3 years, 3.2% for 4 years, 0.9% for 5 years, and 1.2% for 6 to 12 years.

Conclusions: Compared to the estimated rate of SAD in the general population the prevalence of SAD-med is substantial. However, the number of years with seasonal treatment is low in SAD-med patients, which might be due to a generally low adherence to medication (15397 of 58138 patients [26.5%] only had a single prescription of an antidepressant with no represcriptions) or to antidepressants being only second line for most SAD patients beside other treatments (e. g. light therapy). Our approach might be limited by including patients with seasonal prescriptions for indications other than SAD (e. g. seasonal psychosocial stress).

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P.36 Behavioural effects of high fat diet in early adulthood in Nrg1 transmembrane domain mutant mice

Jerzy Zieba[1,2,3]; Margaret J Morris[2]; Tim Karl[1,2,3,4]
[1]*Neuroscience Research Australia, NSW 2031, Sydney, Australia;*
[2]*School of Medical Sciences, University of New South Wales, NSW 2052, Sydney, Australia;*
[3]*Schizophrenia Research Institute, NSW 2031, Sydney, Australia;*
[4]*School of Medicine, Western Sydney University, NSW 2560, Sydney, Australia*

Introduction: Schizophrenia patients are often obese or overweight. Poor dietary choices are a factor in this phenomenon. Poor diet has complex consequences for the mental state of patients. Furthermore, female adult mice of an established model for the schizophrenia risk gene *neuregulin 1* (transmembrane domain *Nrg1*: *Nrg1 TM* HET) show behavioural modifications when exposed to high fat diet (HFD), including attenuation of cognitive deficits. As sex effects are described for *Nrg1* mutant mouse models and adolescence is a period of increased sensitivity to environmental risk factors, we investigated whether HFD provided early in life to both sexes modulates schizophrenia-relevant behaviours.

Methods: Male and female *Nrg1 TM* HET and control littermates were exposed to either HFD or a standard chow diet (CHOW) (N=12-16) for 8 weeks starting in late adolescence. After this initial period, mice were kept on the respective dietary conditions and tested in behavioural domains relevant to schizophrenia including locomotion and exploration in open field (OF) social preference and sociability behaviours, sensorimotor gating (i.e. prepulse inhibition (PPI), and associative learning in the fear conditioning task (FC).

Results: All mice on HFD weighed significantly more compared to CHOW mice regardless of genotype. In OF, *Nrg1 TM* HET mice of both sexes exhibited increased locomotion and reduced anxiety. In PPI, *Nrg1 TM* HET males and females displayed a reduced acoustic startle response. Fear-associated memory and social behaviours were not affected by 'diet' or 'genotype'.

Conclusion: In the current study, male and female *Nrg1 TM* HET mice displayed increased explorative behaviours and locomotion confirming previous findings. Additionally, *Nrg1* mutants exhibited a lower response to an acoustic startle stimulus compared to control animals. Adolescent HFD did not augment the majority of behaviours assessed. This resilience of late adolescent *Nrg1* mutant mice to environmental challenge, which is different to what has been observed in adult *Nrg1* mice, is in line with previous studies evaluating the effects of cannabis exposure in these mice across development.

NOTES

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74, Bd d'Italie - 98000 Monte-Carlo - Monaco
Ph. +377 97 97 35 55 - Fax +377 97 97 35 50
E-mail: ifmad@publicreations.com