

2nd International Congress on Neurobiology, Psychopharmacology & Treatment Guidance

Thessaloniki Greece

www.psychiatry.gr

ICNP2011

November 24th-27th, 2011

Makedonia Palace Hotel

Under the auspices of:

-  School of Medicine
Aristotle University of Thessaloniki, Greece
-  Hellenic Psychiatric Association
-  Psychiatric Association
for Eastern Europe and the Balkans
-  World Association for Social Psychiatry
-  European Psychiatric Association



INTERNATIONAL SOCIETY of NEUROBIOLOGY
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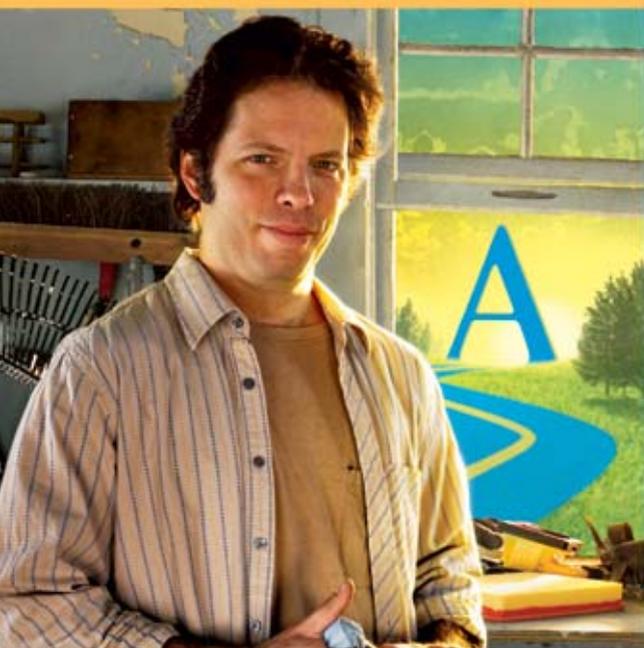
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ICNP2011

2nd International Congress on
**Neurobiology,
Psychopharmacology
& Treatment Guidance**
Thessaloniki Greece

Dear colleagues,

It's a great pleasure to invite you to the "2nd International Congress on Neurobiology, Psychopharmacology and Treatment Guidance", which is taking place in Thessaloniki Greece, on November 24th-27th, 2011.

After the great success of the 1st Congress which took place in 2009, this second Congress aims again at being useful for the clinician who fights daily in the front line for the treatment of real-world patients. In this frame, our goal is to provide a global and comprehensive update of the newest developments in Psychiatry and the allied sciences in a way which will be both focused and enriched. The rule is to avoid content-free eloquence and authority and to face hard questions on the base of research findings. Many world wide experts have been invited to share with us their knowledge and experience once again under the support and guidance of the European Psychiatric Association and the World Psychiatric Association under the Auspices of the School of Medicine, Aristotle University of Thessaloniki.

During these difficult times for the world economy, advanced education and training is the only way to the future. Teaching clinical usefulness and application of new knowledge and informed treatment with psychopharmacological agents in a truly multidisciplinary approach is the central axis of the meeting and although the congress will embrace high tech research concerning psychopathology, new treatment methods, genetics and molecular biology, it also aims to put the emphasis on the human factor, both the therapist and the patient.

Apart from the humanistic tradition of Psychiatry and the life sciences, the continuous and unconditional investment on the high level training of professionals and education of patients and their families, emerged as a significant challenge during the last few decades. Medical scientists and public health policy makers are increasingly concerned that the scientific discoveries are failing to be translated efficiently into tangible human benefit. Today, in an all the more complex and technologically advanced environment, the human factor emerges again as the most valuable one, the factor that determines the final outcome.

As hosts and organizers, we shall spare no effort in making your participation scientifically rewarding and meaningful and your stay in Thessaloniki and Greece as enjoyable as possible.



Konstantinos N. Fountoulakis
Assist. Professor of Psychiatry,
Aristotle University of Thessaloniki, Greece

Chair of the Organizing Committee
2nd International Congress on Neurobiology,
Psychopharmacology & Treatment Guidance

Main Topics

The main topics of the Congress are the following:

- Abnormal psychology
- Animal models
- Anxiety disorders
- Basic neuroscience
- Behavioural disorders
- Bioethics
- Biological rhythms
- Biomedical technology
- Childhood and adolescence disorders
- Clinical psychiatry
- Clinical psychopharmacology
- Dementia
- Developmental psychology
- Drug development
- Eating disorders
- Evidence-based psychiatry
- Experimental psychology
- Experimental psychopharmacology
- Forensic psychiatry
- Health economics and quality of life
- Information technology and neuroscience
- Learning abilities and disabilities
- Major disaster and mental health
- Memory and cognitive disorders
- Methodology in psychiatric research
- Molecular psychiatry
- Mood disorders
- Neural networks
- Neuroimaging
- Neuropsychology
- Neurophysiology
- Neuropsychobiology
- Neuropsychoneuroendocrinology
- Non pharmacological biological therapies
- Nosology and classification
- Personality
- Pharmacogenetics
- Psychiatric genetics
- Psychobiology
- Psychogeriatrics
- Psychoimmunology
- Psycholinguistics
- Psychometrics
- Psychopathology
- Psychopharmacology
- Psychophysiology
- Psychosocial and other non-biological therapies and interventions
- Schizophrenia and other psychotic disorders
- Sexual behaviour and disorders
- Sleep
- Social psychiatry
- Stress
- Substance abuse and dependence
- Suicide
- Temperament
- Transcultural psychiatry
- Treatment guidelines
- Violence



Honorary Chair of the Congress: Zeki S. (UK)

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Scientific Program

Thursday, November 24th 2011

“Alexandros” Hall

09.00-09.30

LECTURE

Chairperson: **Stavros Samolis (Greece)**

The effect of alprazolam (xanax) in anxiety patients (both treated and untreated) and healthy controls in driving behaviour in a simulated environment

Katerina Touliou (Greece)

09.30-11.00

SYMPOSIUM

MUSICAL PERFORMANCE LEARNING ABILITIES TRAINING: PSYCHOPHYSIOLOGICAL FEATURES

Chairperson: **Olga M. Bazanova (Russia)**

Alpha EEG indices of musical performance abilities development in musicians and non musicians

Anna V. Kondratenko (FYROM)

Musical perception experience, brain electrical activity and acoustic voice analysis

Paula Viana Wackermann (Germany)

EEG mapping of melody recognition tasks

Giuseppe Buzzanca (Italy)

Development “Archetype of music perception” projective test for musical students training

Alla Toropova (Russia)

Comparison the two month simultaneous individual alpha-2-EEG stimulating and EMG decreasing biofeedback and usual practice training musical performance skills

Olga M. Bazanova (Russia)

11.00-12.30

SYMPOSIUM

NEUROBIOLOGY OF SPEECH, LISTENING AND LEARNING THROUGH THE AUDITORY MODALITY

Chairpersons: **Konstantinos Polyzoidis (Greece),
Jannis Constantinidis (Greece)**

Neurobiology of listening

Ioannis Nimatoudis (Greece)

Neurobiology of speech

Athanasia Printza (Greece)

Current knowledge of language functional anatomy

Nikolaos Foroglou (Greece)

Learning through the auditory modality and medial olivocochlear bundle functioning

Vassiliki Iliadou (Greece)

Thursday, November 24th 2011

“Alexandros” Hall

12.30-13.00 Break

13.00-14.30 **SYMPOSIUM**
MEMORY, COMMUNICATION, LANGUAGE, SPEECH AND SWALLOWING DEFICITS IN DEMENTIA
Chairperson: **Grigorios Nasios (Greece)**

Communication, language and speech deficits in dementia: A theoretical approach
Grigorios Nasios (Greece)

Communication, language and speech deficits in dementia: Research data in Greek population
Dionysios Tafiadis (Greece)

The effect of communication, language and speech deficits on quality of life in dementia
Maria Ignatiou (Greece)

Management of feeding and swallowing deficits in patients with dementia
Eleanna Virvidakis (Greece)

14.30-16.00 Break

16.00-17.30 **SYMPOSIUM**
ISSUES ABOUT FORESIC PSYCHIATRY IN GREECE
Chairpersons: **Athanasios Douzenis (Greece),**
Christos Tsopelas (Greece)

Mental illness in prisoners an overview of Greek findings
Athanasios Douzenis (Greece)

Law and mental health in ancient Greece: The birth of a concept
George Tzeferakos (Greece)

Compulsory admission in Greece. Findings from 2 hospitals
Christos Tsopelas (Greece)

Development of a multidisciplinary forensic mental health team in Greece
Georgia Kalemi (Greece)

*The Symposium is organized by
the Forensic section of the Greek Psychiatric Association*



Thursday, November 24th 2011

“Alexandros” Hall

17.30-19.00

SYMPOSIUM

THE EFFECT OF ALPHA ELECTROENCEPHALOGRAPHIC BIOFEEDBACK ON COGNITION AND HEART RATE VARIABILITY

Chairpersons: **Olga M. Bazanova (Russia),
David Vernon (UK)**

Background, rationale and methodological issues of alpha neurofeedback training

David Vernon (UK)

The effect of alpha electroencephalographic biofeedback on cognition and heart rate variability

Olga M. Bazanova (Russia)

The frequency shift in the EEG alpha band during optimal performance by marksmen

Dmitry Napalkov (Russia)

Effectiveness of upper alpha EEG biofeedback training may depend on the type of self-regulation technique and the level of resting baseline activity

Olga Yu. Lazareva (Russia)

Alpha peak frequency coherence biofeedback training in astronaut professional skill enhancement

Tatyana A. Ershova (Russia)

19.00-19.30

Coffee break

19.30-20.00

LECTURE

Chairperson: **Ioannis Giouzepas (Greece)**

Psychosis risk syndrome (PRS): Pharmacological interventions

George Garyfallos (Greece)

20.00-21.30

FORUM

THE FUTURE OF MENTAL HEALTH IN GREECE

Moderator: **George Christodoulou (Greece)**

George Christodoulou (Greece)

Charalambos Ierodiakonou (Greece)

Ioannis Giouzepas (Greece)

Apostolos Iacovides (Greece)

Friday, November 25th 2011

“Alexandros” Hall

09.00-09.30

LECTURE

Chairperson: **Nikolaos Maglaveras (Greece)**

Implementation (ICT tool) and evaluation of practice guidelines and information materials in mental health care workers (physicians and pharmacists)

Dimitrios Margaritis (Greece)

09.30-11.00

SYMPOSIUM

NOVEL TECHNOLOGIES AND PROCEDURES IN THE DIAGNOSIS AND TREATMENT OF MENTAL DISORDERS

Chairpersons: **Nikolaos Maglaveras (Greece),
Konstantinos N. Fountoulakis (Greece)**

The role of digital health platform in mental health policy
Ioanna Chouvarda (Greece)

Novel technologies for ubiquitous monitoring and management of neurological/mental disorders: The role of ambient assisted living approaches
Mary Panou (Greece)

Methods for automated evaluation of neuropsychological and psychometric tests in routine clinical practice
Xenia Gkontra (Greece)

Applying the digital health platform in the survey of vulnerable groups residing in Thessaloniki: Results and outcomes
Konstantinos N. Fountoulakis (Greece)

11.00-12.30

SYMPOSIUM

CHRONIC FATIGUE SYNDROME (MYALGIC ENCEPHALOMYELITIS): RECENT ADVANCES IN NEUROBIOLOGY AND TREATMENT GUIDANCE

Chairpersons: **Basant K. Puri (UK),
Sofia Tsaluchidu (Italy)**

Research and treatment: The patient's perspective
Clare Palmer (UK)

Neuroimaging studies
Basant K. Puri (UK)

Sleep studies
Ian H. Treasaden (UK)

The immune system: A combined approach to treatment
Raymond Perrin (UK)

The psychopharmacological role of LC-PUFAs
Sofia Tsaluchidu (Italy)



Friday, November 25th 2011

“Alexandros” Hall

12.30-13.00 Coffee break

13.00-14.30 **SYMPOSIUM**

DYSTHYMIC DISORDER: NEWER DATA

Chairpersons: **Konstantinos N. Fountoulakis (Greece),
Charalambos Touloumis (Greece)**

Epidemiological and clinical aspects of dysthymic disorder
Spyridon Kleisas (Greece)

Treatment of dysthymic disorder
Anastasios K. Papakonstantinou (Greece)

Double depression
Achilleas Economou (Greece)

*The Symposium is organized by
the Psychiatric Hospital of Attica - “DAFNI”, Athens, Greece*

14.30-16.00 Break

16.00-17.00 **LECTURE**

Chairperson: **Panagiotis Grigoriou (Greece)**

Genetics in Psychiatry: An update
Dimitrios Dikeos (Greece)

17.00-17.30 **LECTURE**

Chairperson: **Grigoris Abatzoglou (Greece)**

Evidence based treatment for eating disorders
Janet Treasure (UK)

17.30-19.00 **SYMPOSIUM**

**MAINTENANCE STUDIES IN BIPOLAR DISORDER - METHODOLOGICAL
CONSIDERATIONS AND EVIDENCE**

Chairperson: **Heinz Grunze (UK)**

The impact of the design of relapse prevention and maintenance studies on
outcome
Willem Nolen (The Netherlands)

Individualized long-term treatment: Can predominant polarity guide the choice?
Dina Popovic (Spain)

The updated WFSBP maintenance guidelines: The evidence for relapse
prevention and prophylaxis
Heinz Grunze (UK)

*The Symposium is sponsored by
Bristol-Myers Squibb*

Friday, November 25th 2011

“Alexandros” Hall

19.00-19.45 **GOLD MEDAL LECTURE**
Chairperson: **Hagop S. Akiskal (USA)**

The role of art in understanding the brain
Semir Zeki (UK)

19.45-20.00 *Coffee break*

20.00-21.30 **SATELLITE LECTURE**
Chairperson: **Ioannis Giouzepas (Greece)**

Major depressive disorder: Aiming at remission after failure of the initial
treatment
Konstantinos N. Fountoulakis (Greece)

*The Satellite Lecture is sponsored by
AstraZeneca*



Saturday, November 26th 2011

“Alexandros” Hall

09.00-09.30

LECTURE

Chairperson: **Nikiforos V. Angelopoulos (Greece)**

The role of the DRD4 in working memory and cognitive function
Evangelia Tsapakis (Greece)

09.30-11.00

SYMPOSIUM

THE COMPLEX FACE OF BIPOLAR ILLNESS

Chairperson: **Giulio Perugi (Italy)**

Physical, behavioural and neurodegenerative comorbidity in bipolar spectrum disorder

Giulio Perugi (Italy)

Eating disorder, obesity and bipolarity: A complex relationship

Alfonso Tortorella (Italy)

Adult ADHD in bipolar patients

Cristina Toni (Italy)

Bipolar disorder in the frame of dementia (Bipolar VI)

Dimitrios Kontis (Greece)

11.00-11.45

LECTURE

Chairperson: **Ioanna Ierodiakonou-Benou (Greece)**

Genes, temperament, culture: Cultural characteristics of the distribution of affective temperaments

Xenia Gonda (Hungary)

11.45-12.30

LECTURE

Chairperson: **Dimitrios Kouvelas (Greece)**

The breakdown of the novelty seeking phenotype: Cognitive and emotional processing associated with the L-DRD4 genotype

Panagiotis Bitsios (Greece)

12.30-13.00

Coffee break

13.00-13.45

LECTURE

Chairperson: **Ioannis Diakogiannis (Greece)**

Intervention in early psychosis

Vasileios Kontaxakis (Greece)

Saturday, November 26th 2011

“Alexandros” Hall

13.45-14.30

LECTURE

Chairperson: **Lefteris Lykouras (Greece)**

Dopamine pathways: Illnesses and treatments
John Cookson (UK)

14.30-16.00

Break

16.00-17.00

LECTURE

Chairperson: **Driss Moussaoui (Morocco)**

Temperament: From TEMPS-A to neural substrates & vulnerability genes for
bipolarity and creative accomplishment
Hagop S. Akiskal (USA), Kareen Akiskal (USA)

17.00-17.30

LECTURE

Chairperson: **Apostolos Iacovides (Greece)**

Bridging the gap between developed and developing countries in Psychiatry:
The FAST programme
Driss Moussaoui (Morocco)

17.30-19.00

SYMPOSIUM

THE BURDEN OF CYCLOTHYMIA

Chairpersons: **Athanasios Koukopoulos (Italy),
Zoltan Rihmer (Hungary)**

The role of suicidality and suicide
Zoltan Rihmer (Hungary)

Relationships impulsivity in anxious patients
Giulio Perugi (Italy)

The role of hypomanic symptoms
Athanasios Koukopoulos (Italy)

The role of addiction
Andreas Erfurth (Austria)

*The Symposium is organized by
the European Bipolar Forum*



Saturday, November 26th 2011

“Alexandros” Hall

19.00-19.45

FORUM

THE FUTURE OF BIOLOGICAL PSYCHIATRY AND PSYCHOPHARMACOLOGY

Moderator: **Konstantinos N. Fountoulakis (Greece)**

Hagop S. Akiskal (USA)

Siegfried Kasper (Austria)

Hans-Jürgen Möller (Germany)

19.45-20.00

Coffee break

20.00-21.30

SATELLITE SYMPOSIUM

REALITIES OF TREATING BIPOLAR MANIA PATIENTS

Chairperson: **Konstantinos N. Fountoulakis (Greece)**

Efficacy in acute mania without sedation. Is it achievable?

Heinz Grunze (UK)

Evidence based treatment of bipolar disorder

George Papageorgiou (Greece)

*The symposium is sponsored by
Bristol-Myers Squibb*

21:30

Awards ceremony

Sunday, November 27th 2011

“Alexandros” Hall

09.00-09.30

LECTURE

Chairperson: **Michael Sotiriou (Greece)**

Meta-analysis demystified: A useful but potentially dangerous tool for evidence - based Psychiatry

Georgia Salanti (Greece)

09.30-11.00

SYMPOSIUM

A ROLE FOR BRAIN DERIVED NEUROTROPHIC FACTOR IN NEUROPSYCHIATRIC DISORDERS: ETIOLOGICAL ASPECTS AND THERAPEUTIC PERSPECTIVES

Chairpersons: **Sonia Ruiz de Azúa Garcia (Spain),
Maria-Paz Viveros (Spain)**

The neurotrophin BDNF: From depression susceptibility to treatment response
Francesca Calabrese (Italy)

Reactivation of developmental plasticity by antidepressant drugs and neurotrophins
Dimos Dimellis (Greece)

The new therapeutic strategies in the first psychotic episode: The roll of the BDNF
Sonia Ruiz de Azúa Garcia (Spain)

Blood BDNF concentrations reflect brain-tissue BDNF levels across species
Anders Bue Klein (Denmark)

11.00-12.30

SYMPOSIUM

THE FUTURE OF ALZHEIMER DISEASE RESEARCH: FROM GROUP DIFFERENCES TO INDIVIDUAL PREDICTION

Chairpersons: **Constantin Bouras (Switzerland),
Panteleimon Giannakopoulos (Switzerland)**

The endless debate of amyloid/tau-related causality: Lessons from neuropathology
Constantin Bouras (Switzerland)

Individual vulnerability to AD process: Moving from mild cognitive impairment to healthy controls
Panteleimon Giannakopoulos (Switzerland)

Volumetric changes and white matter damage in mild cognitive impairment: Prediction or conclusion?
Aikaterini Xekardaki (Switzerland)

Early onset Alzheimer's disease: Clinical, imaging and biological features
Socratis Papageorgiou (Greece)



Sunday, November 27th 2011

“Alexandros” Hall

12.30-13.00 Coffee break

13.00-14.30 **SYMPOSIUM**
WORLD AND TRANSCULTURAL PERSPECTIVES IN PSYCHIATRY AND MENTAL HEALTH

Chairperson: **Konstantinos N. Fountoulakis (Greece)**

Attitudes towards psychopharmacological treatment: A transcultural perspective

Melina Siamouli (Greece)

Mental health of ethnic elders: A largely unexplored area of research

Dimitrios Kontis (Greece)

Longitudinal studies of cognition in first episode psychosis: A systematic review of the literature in a world perspective

Vasilios Bozikas (Greece)

Mental health care in a multicultural environment

Stamatia Magiria (Greece)

14.30 **Closing Ceremony**



ΠΕΡΙΛΗΨΗ ΤΩΝ ΧΑΡΑΚΤΗΡΙΣΤΙΚΩΝ ΤΟΥ ΠΡΟΪΟΝΤΟΣ. ΟΝΟΜΑΣΙΑ ΤΟΥ ΦΑΡΜΑΚΕΥΤΙΚΟΥ ΠΡΟΪΟΝΤΟΣ: INVEGA 3 mg δισκία παρατεταμένης αποδέσμευσης, INVEGA 6 mg δισκία παρατεταμένης αποδέσμευσης, INVEGA 9 mg δισκία παρατεταμένης αποδέσμευσης. **ΠΟΙΟΤΙΚΗ ΚΑΙ ΠΟΣΟΤΙΚΗ ΣΥΝΘΕΣΗ:** Κάθε δισκίο παρατεταμένης αποδέσμευσης περιέχει 3 mg παλiperιδόνης. Κάθε δισκίο παρατεταμένης αποδέσμευσης περιέχει 6 mg παλiperιδόνης. Κάθε δισκίο παρατεταμένης αποδέσμευσης περιέχει 9 mg παλiperιδόνης. Για τα δισκία των 3 mg: Έκδοχα: Κάθε δισκίο περιέχει 13,2 mg λακτόζη. **ΦΑΡΜΑΚΟΤΕΧΝΙΚΗ ΜΟΡΦΗ:** Δισκία παρατεταμένης αποδέσμευσης, 3 mg: Τριών στρώσεων σχήματος καψακίου λευκά δισκία με εκτυπωμένη την ένδειξη "PAL 3", 6 mg: Τριών στρώσεων σχήματος καψακίου μεζ, δισκία με εκτυπωμένη την ένδειξη "PAL 6", 9 mg: Τριών στρώσεων σχήματος καψακίου ροζ, δισκία με εκτυπωμένη την ένδειξη "PAL 9". **ΚΑΤΟΧΟΣ ΤΗΣ ΑΔΕΙΑΣ ΚΥΚΛΟΦΟΡΙΑΣ:** Janssen-Cilag International NV, Turnhouseweg 30, B-2340 Beerse, Βέλγιο. **ΑΡΙΘΜΟΣ(ΟΙ) ΑΔΕΙΑΣ ΚΥΚΛΟΦΟΡΙΑΣ:** 3 mg: EU/1/07/395/001, 6 mg: EU/1/07/395/005, 9 mg: EU/1/07/395/011. **ΗΜΕΡΟΜΗΝΙΑ**

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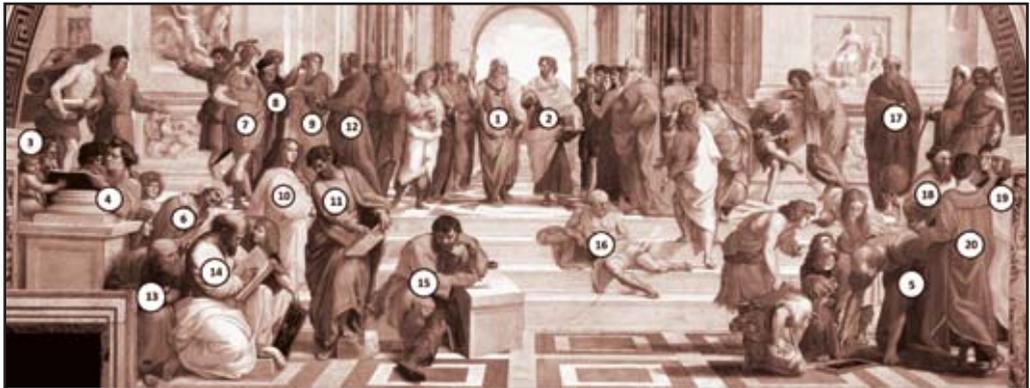
IN MEMORIAM

Yves Lecrubier (1944-2010)



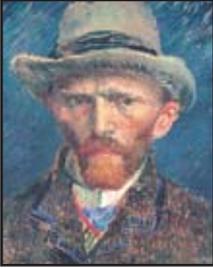
The **School of Athens** (Scuola di Atene) has been chosen by the ISNP as its emblematic icon.

Painted between 1510 and 1511 is one of the most famous paintings by the Italian Renaissance artist Raphael. It was part of Raphael's commission to decorate with frescoes the rooms now known as the Stanze di Raffaello, in the Apostolic Palace in the Vatican. The picture has long been seen as "Raphael's masterpiece and the perfect embodiment of the classical spirit of the High Renaissance." The "School of Athens" is one of a group of four main frescoes on the walls of the Stanza that depict distinct branches of knowledge. Its overhead tondo-label, "Causarum Cognitio" appears to echo Aristotle's emphasis on wisdom as knowing the causes, in *Metaphysics* Book I and *Physics* Book II. The rhetorical gestures of Plato and Aristotle are kinds of pointing (to the heavens and down to earth). Commentators have suggested that nearly every great Greek philosopher can be found within the painting, but determining which are depicted is difficult, since Raphael made no designations outside possible likenesses, and no contemporary documents explain the painting. The identities of some of the philosophers in the picture, such as Plato or Aristotle, are incontrovertible. Beyond that, identifications of Raphael's figures, even among scholars, have always been conjectural.

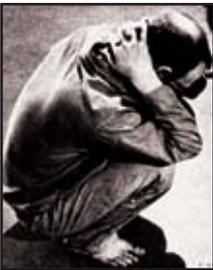


- | | |
|------------------------------|-------------------------------|
| 1. Plato (Leonardo da Vinci) | 11. Parmenides |
| 2. Aristotle | 12. Socrates |
| 3. Zeno of Citium | 13. Empedocles |
| 4. Epicurus | 14. Pythagoras |
| 5. Euclid or Archimedes | 15. Heraclitus (Michelangelo) |
| 6. Averroes | 16. Diogenes |
| 7. Alexander the Great | 17. Plotinus |
| 8. Xenophon | 18. Zoroaster |
| 9. Aeschines | 19. Protagoras |
| 10. Hypatia | 20. Ptolemy |

Images depicted on the cover of this volume



Vincent Willem van Gogh (1853-1890) was an influential Dutch post-impressionist painter. In just over a decade, he produced more than 2,000 artworks, consisting of around 900 paintings and 1,100 drawings and sketches. He suffered from an unidentified mental illness (possibly bipolar disorder) which eventually led him to die at the age of 37 from a self-inflicted gunshot wound. The extent to which his mental health affected his paintings has been a subject of speculation since his death. Despite a widespread tendency to romanticize his ill health, modern critics see an artist deeply frustrated by the inactivity and incoherence brought about by his bouts of illness.



Anonymus patient



Giannoulis Chalepas (1851-1938) is for Modern Greek sculpture a great tragic myth. He studied sculpting at the school of Fine Arts in Athens, and continued his studies in the Academy of Munich, under Max Windmann. In 1874, he was awarded first prize by the Academy for his work Fairy Tale of Sleeping Beauty. He suffered from an unidentified mental illness (possibly affective psychosis) which led him to prolonged hospitalizations and periods of significant disability. Of his work 115 sculptures survive today, while testimonies exist for a further thirty, which destroyed or are of whereabouts unknown. Chalepas' oeuvre, his sculptures and his drawings, reveal the creator's liberation from the structures of academicism and the conquest of a personal expression that was won with many difficulties torturously, through a tragic fate.



Adeline Virginia Woolf (1882-1941) was an English author, essayist, publisher, and writer of short stories, regarded as one of the foremost modernist literary figures of the 20th century. Her most famous works include the novels *Mrs Dalloway* (1925), *To the Lighthouse* (1927) and *Orlando* (1928), and the book-length essay *A Room of One's Own* (1929). She was suffering from bipolar disorder. In 1941 she fell into depression and on 28 March 1941, she put on her overcoat, filled its pockets with stones, and walked into the river Ouse near her home and drowned herself.



Jean-Louis 'Jack' Lebris de Kerouac (1922-1969) was an American novelist and poet. He is considered a literary iconoclast and, alongside William S. Burroughs and Allen Ginsberg, a pioneer of the Beat Generation. Critics of his work have labeled it "slapdash", "grossly sentimental" and 'immoral'. Kerouac became an underground celebrity and, with other beats, a progenitor of the Hippie movement. Although he was diagnosed as suffering from schizophrenia it seems that he faked symptoms to avoid enlisting. There are reports suggesting he was suffering from interpersonal difficulties, emotional liability and depression. In 1969, at age 47, he died from internal bleeding (bleeding esophageal varices) due to long-standing abuse of alcohol. Since his death Kerouac's literary prestige has grown and several previously unseen works have been published.



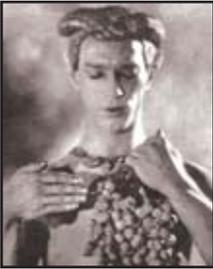
Eduard Einstein (1910-1965), son of Albert Einstein was a very good pupil, and particularly noticeable due to his high intellectual and musical gifts. In 1929 he began studying medicine and wanted to become a psychiatrist. In 1930, at the age of 20 years, he developed schizophrenia and two years later he was hospitalized in Zurich. Starting from 1948, after the death of his mother, Eduard lived continuously in the "Burghoelzli" asylum in Zurich, where he died.



Auguste D. (1850-1906) was admitted to the Frankfurt hospital on Nov 25, 1901, where she was examined by Alois Alzheimer. On Nov 4, 1906, Alois Alzheimer gave a remarkable lecture, in which he described for the first time a form of dementia that subsequently, at the suggestion of Emil Kraepelin, became known as Alzheimer's disease. In his lecture, at the 37th Conference of South-West German Psychiatrists in Tübingen, Alzheimer described a patient called Auguste D, a 51-year-old woman who had shown progressive cognitive impairment, focal symptoms, hallucinations, delusions, and psychosocial incompetence. At necropsy, there were plaques, neurofibrillary tangles, and arteriosclerotic changes. She is considered to be the first patient identified to suffer from Alzheimer's disease.



Jack Lord (1920-1998), born John Joseph Patrick Ryan was an American television, film, and Broadway actor. He was known for his starring role as Steve McGarrett in the American television program Hawaii Five-O from 1968 to 1980. Lord appeared in feature films earlier in his career, among them Man of the West (1958). He was the first actor to play recurring character Felix Leiter in the first James Bond film Dr. No. He was reported to suffering from Alzheimer's disease for almost a decade although an alternative diagnosis was organic mental disorder due to congestive heart failure and vascular disease.



Vaslav Nijinsky (1890-1950) was a Russian ballet dancer and choreographer of Polish descent, cited as the greatest male dancer of the 20th century. He could perform en pointe, a rare skill among male dancers at the time and his ability to perform seemingly gravity-defying leaps was also legendary. He suffered the first episode of schizophrenia in 1919 and was treated then by Eugene Bleuler. He spent the rest of his life in and out of psychiatric hospitals and asylums.



Syd Barrett (1946-2006), born Roger Keith Barrett, was an English singer-songwriter, guitarist, and painter, best remembered as a founding member of the band Pink Floyd. He was the lead vocalist, guitarist and primary songwriter during the band's psychedelic years, providing major musical and stylistic direction in their early work, including their name. Through late 1967 and early 1968, Barrett's behaviour became increasingly erratic and unpredictable and at times psychotic-like. There were rumors concerning the diagnosis of psychosis, however, his history also includes reported heavy use of psychedelic drugs, most prominently LSD.



Vivien Leigh, Lady Olivier (1913-1967) was an English actress who won a Best Actress Academy Award for her portrayal of Blanche DuBois in *A Streetcar Named Desire* (1951). She also played Scarlett O'Hara, alongside Clark Gable, in *"Gone With The Wind"*. Married to sir Laurence Olivier, for much of her adult life she suffered from bipolar disorder, possibly since age 35. She earned a reputation for being difficult to work with, and her career suffered periods of inactivity. She died from tuberculosis in 1967.



Carolus Horn (1921-1992) was a famous German artist and creator of many well known drawings for Opel, Esso and Coca Cola and has been widely appreciated for his elegant designs and a perfect mastership of the drawing. Despite developing Alzheimer's dementia, he continued to produce drawings and paintings until he died. There are impressive changes in spatial relations, in the preference of colors, in the size of objects and other aspects of his paintings. The most prominent change is the loss of 3-dimensionality, followed by a continuous simplification and finally a decay of all objects and structures.



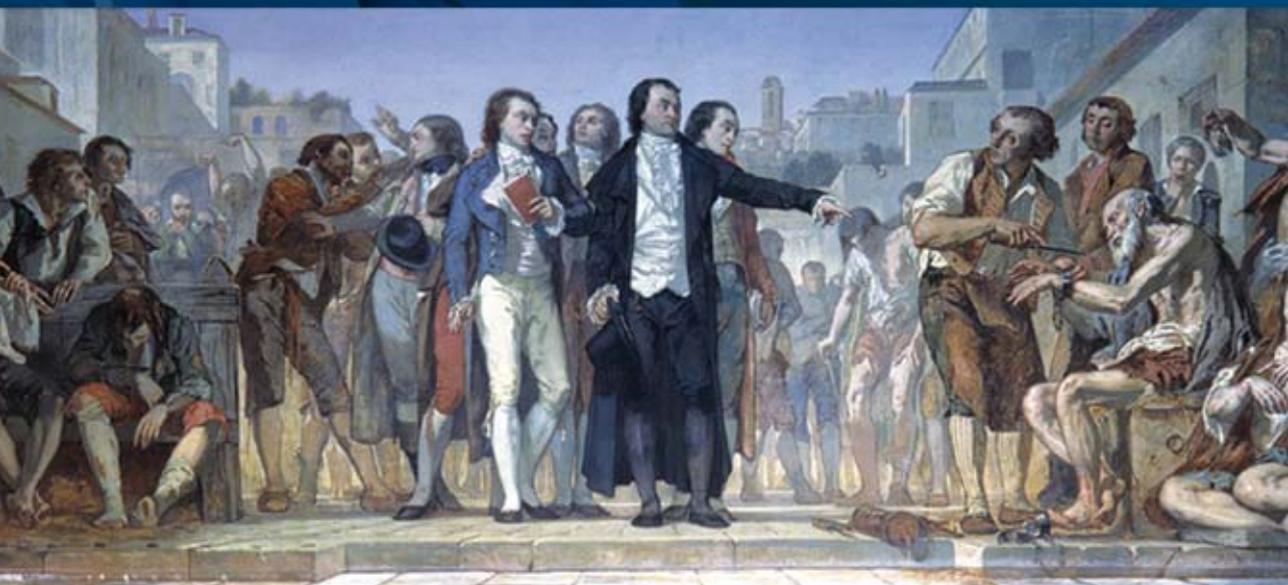
Ernest Miller Hemingway (1899-1961) was an American author and journalist who influenced 20th-century fiction, as did his life of adventure and his public image. He produced most of his work between the mid-1920s and the mid-1950s. He won the Nobel Prize in Literature in 1954. Many of his works are classics of American literature. He published seven novels, six short story collections, and two non-fiction works during his lifetime; a further three novels, four collections of short stories, and three non-fiction works were published posthumously. He committed suicide with his beloved shotgun with which he posed. He was suffering from bipolar disorder and from hemochromatosis. Also his father, his sister, his brother and his granddaughter Margo committed suicide.



King Saul (1079 BC-1007 BC) was the first king of the united Kingdom of Israel according to the Hebrew Bible. He suicidally fell on his sword in battle against Philistines at Mount Gilboa. The main account of Saul's life and reign is found in the Books of Samuel. The descriptions of the Bible made many commentators suggesting that the erratic behavior manifested by him was in fact manifestations of bipolar disorder which led him from glory to suicide.

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Makedonia Palace Hotel, Thessaloniki, Greece
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How to get to Makedonia Palace Hotel

Makedonia Palace Hotel can be reached easily by public transport or by taxi. Please visit the official web site to see the city map for further information.
(www.psychiatry.gr)

Official Language

English will be the official language of the Congress. All printed material and poster presentations will be in English.

CME Accreditation

The Congress is accredited with 21 CME credits for the main congress program, by the European Accreditation Council for Continuing Medical Education (EACCME) Institution of the UEMS, to provide CME activity for medical specialists, recognized by the American Medical Association (AMA).

Certificate of Attendance

Certificates of attendance will be handed out upon request from the registration counter on Sunday, November 27th 2011.

E-Posters

All E-posters will be presented electronically and they will also be available on-line. No hardcopies will be handed. The E-posters will be presented on Friday, November 25th and Saturday, November 26th, 2011 in Aristotelis Hall.

Poster Awards

The International Society on Neurobiology and Psychopharmacology announces 5 awards for the 5 best posters which will be presented during the conference. The winners will receive a honorary diploma.

All submitted posters are considered candidates for the awards, unless otherwise stated by the author(s).

Chairperson of the Posters Award Jury: Prof. Giulio Perugi (Italy)

Abstract Book

The scientific program will be available online (pdf format) at www.psychiatry.gr/2icnpepatg/final-program.pdf. The abstract book will be published as a hard copy and will be available online at www.psychiatry.gr/2icnpepatg/abstract-book.pdf.

The full posters will be available online (pdf format) at www.psychiatry.gr/2icnpepatg/posters.pdf.

Exhibition

Within the Congress area there will be an exhibition of medical equipment and pharmaceutical products.

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Available visual equipment for all presentations will be through power point presentation. For power point use, your presence to the “technical reception desk” is required one hour prior to the time of your presentation in order to check the compatibility of your cd or usb stick and to copy the relevant files. Use of personal computers will not be feasible.

Registration Fees (in euros-classification of countries according to the World Bank)

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Students	Free	Free	Free	Free

Note: For countries classification visit the official web site (www.psychiatry.gr).

For free registrations the congress material will be provided according to availability

On-site Registration

Participants who wish to register on-site are advised to arrive early. On-site registration will be processed on a first-come, first-served basis. Priority will be given to pre-registered delegates. Depending on the number of onsite registered delegates, availability of congress bags may be limited.

Name Badges

All participants are requested to wear their name badge at all times during all Congress Events.

Parking

There is underground parking providing a number of spaces with direct access to the Congress venue. The parking fee is not included in the registration fee. There will be space for free parking in the area around the hotel.

Taxis

Taxis are available in front of the airport as well as the hotel entrance.

Insurance

We can not accept responsibility for any personal loss, accidents or damages to participants and/or accompanying persons. Participants are strongly advised to obtain personal insurance to cover any eventuality that may occur during the Congress.



Climate

The climate in Thessaloniki is relatively mild and is typically mediterranean. In late November the average temperature is 10-15 °C during the day. Fluctuation between day and night temperatures is about 10 °C. Rain is quite often in these months.

Travel to Thessaloniki

Thessaloniki has one international airport, the Makedonia Airport with international flights to major cities all over the world. It is linked to public transportation and there is also a taxi station nearby.

For further information regarding the Congress visit the Congress's web site:
www.psychiatry.gr

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Tadokoro S, Kanahara N, Kikuchi S, Hashimoto K and Masaomi I
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Comparison of prevalence of metabolic syndrome in hospital and community-based Japanese patients with schizophrenia
Sugawara N, Yasui-Furukori N, Saito Y, Kishida I, Yamashita H, Saito M, Furukori H, Nakagami T et al.
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PROCEEDINGS

Thursday, November 24th 2011

“Alexandros” Hall

09.00-09.30 LECTURE
Chairperson: Stavros Samolis (Greece)

The effect of alprazolam (xanax) in anxiety patients (both treated and untreated) and healthy controls in driving behaviour in a simulated environment

Katerina Toulou

Centre for Research and Technology Hellas (CERTH) Hellenic Institute of Transport (HIT), Greece

Background: Alprazolam is a widely prescribed anxiolytic for the treatment of anxiety, panic disorder, and depression. Current literature suggests that alprazolam impairs driving performance.

Many studies have investigated its effect in cognitive and driving performance. Studies based on laboratory tests have found that alprazolam affects memory, attention and tracking by decreasing performance in most cases [1][2]. Impairment may be limited to the early stages of benzodiazepine intake, with the general clinical suggestion that tolerance develops within a few days of benzodiazepine use [3]. Relevant studies have focussed on cognitive impairments that both directly and indirectly investigate the effect of alprazolam and other

In general, relevant studies have shown detrimental impairment due to alprazolam administration on driving performance, controlled laboratory settings and subjective scales.

Materials and Methods: In this study, the alprazolam effect (0.5 mg) was investigated in three groups: a) treated anxiety patients, b) untreated anxiety patients, and c) control group. 51 participants matched for age, gender and driving experience completed two driving tasks; a lane tracking and a car following scenario in a simulated environment. A second group of healthy participants (N=18) was included in the study with a baseline and an alcohol consumption (BAC=0.05%) condition.

The CERTH/HIT driving simulator was used for the experiments. Driving variables (SDLP), cognitive measures (attention tests), blood samples (whole/serum) and subjective assessments (Subjective Driving Quality, Karolinska Sleepiness Scale) were gathered in a baseline and an oral administration of alprazolam (0.5 mg) condition.

Results: Alprazolam administration impaired weaving control (SDLP) in lane tracking scenario for all groups. It appears that low and high concentrations of alprazolam in blood serum (ng/mL) are associated with a small improvement in lateral position keeping; however intermediate concentrations are associated only with impairment in road tracking for the control group. Impairment in brake reaction time (sec) in the car following scenario was observed in treated and untreated anxiety patients. Healthy participants showed riskier behaviour after alprazolam administration compared to treated and untreated anxiety ($p < .001$) patients who showed increased percentage of time spent with Time-to-Collision (TTC) values between 2 to 4 seconds. Alertness in attentional performance tests was significantly decreased only in healthy participants ($p = .015$).

Conclusions: The main findings of this study are in agreement with current research that alprazolam has a detrimental effect on driving behaviour. Thus, people under alprazolam medication should be informed about the potential detrimental effects of alprazolam administration to their everyday activities and driving. Deterioration in weaving because of alcohol consumption was found to be equivalent to alprazolam effect in treated and untreated patients and signifi-

cantly less compared to alprazolam effect to the control group. Therefore, the acute effect of alprazolam in anxiety patients may be comparable to alcohol BAC=.05% effect.

Acknowledgements

This study was conducted under the framework of DRUID European Integrated Project and was successfully completed with the close collaboration of research teams from several European countries.

The authors are grateful to Dr. Gisela Skopp and Dr. Ricarda Skopp for the analysis and extraction of alprazolam samples and the respective description of the procedure included in this report.

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09.30-11.00

SYMPOSIUM

MUSICAL PERFORMANCE LEARNING ABILITIES TRAINING: PSYCHOPHYSIOLOGICAL FEATURES

Chairperson: **Olga M. Bazanova (Russia)**

Alpha EEG indices of musical performance abilities development in musicians and non musicians

Anna V. Kondratenko

Professor of Musical Academy and Concertmaster of State Symphonic Orchestra, FYROM

Objectives: Previous investigations showed that Individual alpha EEG activity associated with fluency and creativity in musical performance (Bazanova et al 2003). So studying the changes in EEG alpha activity during development may help to understand maturation of musical performing ability.

Methods: We used different age group comparative study of the coefficient the imitating musical movement optimality, EMG of muscles not participated in musical execution, nonverbal creativity, pitch, tactile sensitivity and individual alpha EEG activity indices (peak frequency (IAPF), band width (IABW), amplitude suppression (IAAS) in response to eyes open) in healthy participants 3-25 years old: 178 musicians (those who have musical performance and training experience) and 123 non musicians.

Results: Pitch and differential tactile sensitivity threshold decreased, while coefficient of musical movement optimality simultaneously with IAPF and IAAS increased with age in both musicians and non musicians. The variability of these changes was larger in non musicians than musicians' alpha indices. Originality in non verbal creativity and IABW had no difference in musicians and non musician's age groups.

Conclusion: Increases in musical performance quality, pitch and tactile sensitivity sharpening

with age were associated with IAPF and IAAS increasing and may be interpreted in terms of a reorganization of the EEG towards a higher frequency oscillatory scale and higher activation which reflects maturation of “top down” control in both musicians and non-musicians. The originality in non-verbal creative task performance and individual alpha band width should be discussed as possible genetically determined kind of musical performance ability. The current study was supported by RHSF 10-06-00265 a

Musical perception experience, brain electrical activity and acoustic voice analysis

Paula Viana Wackermann

Assistant Doctor at the BDH-Klinik Elzach (Neurological Rehabilitation Clinic), Germany

Aim: To investigate if music ability can modify alpha or beta rhythm in the EEG, or any parameter of the acoustic voice analysis, and if there is any relationship between the results of quantitative EEG analysis and acoustic voice analysis in lyrical singers.

Abstract: Several studies have shown the effects of musical perception on the EEG. In the present study twenty-four channel EEG was recorded from 9 right-handed singers and 9 right-handed controls. EEG data were submitted to Fast Fourier Transformation (FFT) processing. In the first phase of the experiment, the EEGs were obtained under the following conditions: rest, listening to classical music, and imagining singing, in the singers and control groups. In the second phase of the experiment, only the singers were submitted to the simultaneous recording of EEG and the acoustic voice analysis. In the singer group, the lack of EEG frequency changes in the “listening to classical music” or “imagining singing” conditions could be explained by a habituation effect. The increase in alpha amplitude at the left frontal region could be related to higher cortical activation, positive emotions, voluntary attention and verbalization processes. In the control group, listening to classical music led to activation of the right temporal region, which is in accordance with the assumption of an implicit musical ability in the human brain. The positive correlation between some parameters of acoustic voice analysis and alpha rhythm suggests a connection between music and language. The present study suggests that musical ability and musical perception (in non-musicians) may influence brain electrical activity. Further studies, including a larger sample and advanced EEG analysis methods, are needed.

EEG mapping of melody recognition tasks

Giuseppe Buzzanca

Ph.D., Professore di I Fascia Conservatorio di Musica di Stato “N. Piccinni” State Conservatory of Music, Bari, Italy

Our study sought to determine whether, where and how the recognition of known/unknown melodies might be reflected in the electrical activity (EEG) of the human brain. We explore the effect of melody recognition tasks in a dichotic listening environment. Music was presented binaurally through the same headphones, to several subjects both music professionals and non-professionals. The melody recognition tasks are investigated through EEG activity and our results may help to understand the different emotional responses which usually arise in response to known/unknown musical melodies or *genres*.

Development “Archetype of music perception” projective test for musical students training

Alla Toropova

Senior Researcher Institution of Russian Academy of Education “Psychological institute” and Associate Professor on the Moscow Social Pedagogy University Department of Methodology of Music Teaching, Moscow, Russia

Objective: In the process of music education psychological knowledge acts as an “amplifier” of the effectiveness of pedagogical influence and understanding students’ individuality. But music education, unlike any other, even artistic one, has peculiar psychological features that include deep penetration into students’ personalities that captures not only cognitive but also affective and stimulating spheres. Carl Gustav Jung considered the process of individuation necessary for a person to become whole. We proposed to use Jung archetypes in order to practically realize and implement them in musical pedagogic. So we tend to develop “Archetype of music perception” projective test for musical students training.

Methods: Among many musical examples of J.S. Bach, L. Beethoven, N. Rimsky-Korsakov, P. Tchaikovsky, F. Schubert, music of “Pink Floyd” were chosen few (6) with the most archetypes shaped features by 20 music-playing teachers and professors. Besides, there were created 27 special archetype music-peaces for the diagnostic procedure. Teachers investigated 4 children at 5 years old and retested them after 14 years with the help of psychological testing Torrence nonverbal creativity test, Motor tapping test, Eysenck’s introversion extraversion test, Projective pictures test in author’s modification and written pedagogical reports of individual style of cognitive activity.

Results: By the factor analysis of psychometric measures with the program SPSS-16 there were found 6 components that in common interpret 60-68% of dispersion (in every musical “stimulus”). Revealed as a result of analyzing the components for the most part coincide with the earlier developed criteria of identification of archetype features in the musical intoning (when playing and perceiving music). The results of the longitudinal research showed stability of the revealed individual psychological archetype characteristics which allow to suggest prevailing feature irrespective ability development, train level.

Conclusion: Created a structural model of individual psychological features of music perception and performance could be used for understanding archetypes in musical performance and perception and for psycho diagnostics in musical professional training.

Comparison the two month simultaneous individual alpha-2-EEG stimulating and EMG decreasing biofeedback and usual practice training musical performance skills

Olga M. Bazanova

Leading researcher in EEG, psychophysiology and neurofeedback, Institute of Molecular Biology and Biophysics, Siberian Branch Russian Academy of Medical Science, Novosibirsk, Russia

Objectives: Our previous investigation showed that musical performance in high skilled musicians is accompanied by the increasing in power in individual upper alpha EEG band with simultaneous decrease in tension of the non-participating in execution muscles. So we developed special for musicians - performer’s biofeedback training protocol: simultaneous individual alpha-2-EEG stimulating and EMG decreasing biofeedback (Alpha-EEG/EMG-BFB)

The aim of this study was comparison the impact of usual 2 month practice and practice combined with Biofeedback training.

Methods: 56 musical students (aged 16-25) were trained in the 20 musical practice sessions with the task "to achieve a state of high quality musical performance complimented with a feeling of comfort". 29 among them had low (<10 Hz) and 27 - high (≥ 10 Hz) individual alpha peak frequency (IAPF) - LAF and HAF subjects. The sample was randomized (by age, gender and IAPF) in two groups. Musical practice was combined in experimental group with Alpha-EEG/EMG-BFB in the control group - with mock-biofeedback.

Results: Initially HAF in comparison with LAF students demonstrated higher musical performance, learning efficiency and self-actualization scores. First Alpha-EEG/EMG-BFB session was more efficient in HAF than in LAF students. Two month Alpha-EEG/EMG-BFB in comparison with usual practice training displayed significant more improvements in the quality of musical performance, learning efficiency and self-actualization in LAF than HAF students. Individual alpha-activity level in rest condition didn't change in all participants, but enhanced during musical performance in those who had BFB training. Higher musical skill, which HAF demonstrated initially, was achieved by LAF too through the practice combined with Alpha-EEG/EMG-BFB. The current study was supported by RHSF 10-06-00265 a

11.00-12.30

SYMPOSIUM

NEUROBIOLOGY OF SPEECH, LISTENING AND LEARNING THROUGH THE AUDITORY MODALITY

Chairpersons: **Konstantinos Polyzoidis (Greece),
Jannis Constantinidis (Greece)**

Neurobiology of listening

Ioannis Nimatoudis

Professor of Psychiatry, Aristotle University of Thessaloniki, Greece

This presentation will focus on current knowledge in the field of auditory neuroscience.

The exposure to sounds in everyday life leads to neural activity generated in the inner ear in order to be transmitted to the brain cortex. It's this neural activity that produces auditory experience and enhances learning through the auditory modality. On certain psychopathologies there exists the presence of auditory experience in the absence of external auditory stimuli (sounds, music, and speech).

Auditory hallucinations have been linked to the activation of the primary auditory cortex as well as to language related temporal and frontal areas. Activation of the primary auditory cortex contributes to the quality of the voices as not being self while this can be the consequence of selective auditory attention. This raises the question whether the activation of the left primary auditory cortex is an epiphenomenon. Electrophysiological methods provide evidence that auditory cortex activation is a quality element of auditory hallucinations. Recent studies provide support that hallucinations arise from disruptions in the speech processing neurocircuitry as opposed to non-language cognitive or pure attentional deficits (Hubl D. 2007).

One important auditory pathway in listening is the interhemispheric one with Corpus Callosum

(CC) and the Anterior Commissure (AC) contributing to increasing functional specialization and computational capacity of the brain through postnatal development.

The corpus callosum consists of heavily myelinated fibres connecting the two hemispheres. Its caudal portion and splenium contain fibres that originate from the primary and second auditory cortices, and from other auditory responsive areas (Bamiou DE 2007). The auditory fibers of Corpus Callosum show the highest growth rate in parallel with rapid acquisition of relevant auditory/language milestones. Interhemispheric transfer appears to be both sensory driven as well as attention modulated (Zaidel & Iacoboni 2003). Callosal axons are implicated in temporal transformation of neural transmission, either synchronizing activity of neuronal groups within and across the hemispheres (a synchronization necessary for figure/background segregation, Singer 1995) or desynchronizing neural activity (by introducing activation delay).

Neurobiology of speech

Athanasia Printza

Assistant Professor, 2nd Department of Otolaryngology, Medical School, Aristotle University of Thessaloniki, Greece

This lecture will focus on the neurobiology of speech production as a basis for the comprehension of the correlation of speech abilities and disabilities with the learning process. Understanding speech production involves knowledge of relevant anatomy, in particular the anatomy of the oro-facial region and neuroanatomy, physiology, and acoustics. The production of speech is a highly complex motor task that involves approximately 100 orofacial, laryngeal, pharyngeal, and respiratory muscles.

Knowledge about the cerebral mechanisms underlying speech production was for many years based on analysis of brain lesions and the correlation between lesion locations and behavioral deficits. The studies of Broca indicated that the production of speech relies on the functional integrity of the left inferior frontal gyrus. Recently the results of neuroimaging techniques, such as functional magnetic resonance imaging (fMRI), provide growing evidence that complex human skills are organized in networks connecting several different areas of both hemispheres and not primarily located in highly specialized brain areas. A complex neural network including cortical and subcortical areas, such as the supplementary motor area, cingulate motor areas, primary motor cortex, basal ganglia, and cerebellum has been identified by functional neuroimaging to underlie speech production.

Speech production requires airflow from the lungs to vibrate the vocal folds of the larynx and produce the sound of voice (phonation) and resonated in the cavities shaped by the jaw, soft palate, lips, tongue and other articulators. Forced inspiration for speech uses muscles to enlarge the thoracic cavity in the vertical and lateral dimensions. During forced expiration for speech, muscles of the trunk and abdomen reduce the size of the thoracic cavity forcing air out of the lungs.

Phonation is the production of a periodic sound wave by vibration of the vocal folds. Just before phonation, the vocal folds move from the abducted to adducted position. Subglottal pressure builds and forces the folds apart, inferiorly to superiorly as air flow starts. If the volume of airflow is constant, the velocity of the flow will increase at the area of constriction (the area between the vocal folds - glottis) and cause a decrease in pressure below. This negative pressure will pull the initially blown open folds back together again. The cycle repeats until the vocal

folds are abducted.

For articulation, mobile and immobile structures of the head and neck adjust the shape of the mouth, pharynx and nasal cavities as the vocal fold vibration sound passes through producing varying resonant frequencies. Speech is transmitted through sound waves, which follow the basic principles of acoustics.

Current knowledge of language functional anatomy

Nikolaos Foroglou

Assistant Professor of Neurosurgery, Aristotle University of Thessaloniki Greece

In addition to the seminal lesion studies of aphasiology, the development of functional neuroimaging has allowed a better understanding of the neural foundations of language. However, despite a substantial improvement in the knowledge of the cortical networks organization, the underlying subcortical association circuits have received less attention. Recent advances in fiber tracking using diffusion tensor imaging, combined with studies using intraoperative electrostimulation, which temporarily inactivates restricted regions during brain surgery, have enabled to map language pathways in humans with spatiotemporal resolution unmatched by other techniques. On the basis of these new insights, my purpose is to revisit the anatomo-functional connectivity of language. First, I discuss the role of the white bundles thought to be essential for language, with special emphasis regarding the structure-function relationships pertaining to the distinct subcomponents of language. Second, I present an integrative view of connectivity, that considers language as the final product of the well synchronized functioning of parallel distributed cortico-subcortical networks.

Learning through the auditory modality and medial olivocochlear bundle functioning

Vassiliki Iliadou

Assistant Professor of Psychoacoustics, Medical School, Aristotle University of Thessaloniki, Greece

Correlation between early exposure to maternal language and learning is well established. A preschool child learns language mainly through the auditory modality and passive exposure mostly to parental speech stimuli. Maturation and plasticity of the central auditory nervous system (CANS) are important elements leading to the individual's ability to perceive and understand auditory stimuli with a special stress on speech stimuli. Maturation occurs from birth till early teenage years and denoted the importance of adequate exposure to speech for language to fully develop. Plasticity of the CANS is known through current evidence to exist until late in life with studies showing improvement through auditory training in adults over 80 years old. Learning disabilities are linked with difficulties in speech perception and/or dichotic listening. Lateralized effects of both otoacoustic emissions (showing cochlear function) and dichotic testing are well documented. Current research points to the possible correlation between suppression of otoacoustic emissions and speech in noise perception. This lecture will provide an insight on current scientific research based on the anatomo-physiology of the CANS.

13.00-14.30

SYMPOSIUM**MEMORY, COMMUNICATION, LANGUAGE, SPEECH AND SWALLOWING DEFICITS IN DEMENTIA**Chairperson: **Grigorios Nasios (Greece)****Communication, language and speech deficits in dementia: A theoretical approach****Grigorios Nasios**

Assistant Professor of Neurology, T.E.I of Epirus, School of Health & Welfare, Department of Speech and Language Therapy, Ioannina, Greece

Deconstructions of speech and language as well as communication skills are among the first signs in all types of dementias. The symptoms are getting worse and more obvious as the disease progresses. Beyond memory, naming, repetition, reading and writing, language comprehension and expression, praxis, the ability of calculation and mathematics, visuospatial ability are functions that decline even in the early stages of the disease. Language in Alzheimer's disease (A.D.) is an aspect of a more generalized degeneration of cognitive functions. Speech and language deteriorate in parallel with other cognitive functions deterioration. If we decide to face the language ability in the majority of A.D. patients according to its phenomenology, we conclude that, at least, has the profile of anomia, Wernicke's aphasia, or transcortical sensory aphasia's (Appell et al., 1982; Cummings, Benson, Hill & Reed, 1985). The mixed types of vascular dementias considered to be faced more often in clinical practice, and widen the horizon of dementia. Arnold Pick based on his first patient, described the "Primary Progressive Aphasia – P.P.A." as a lobe atrophy (1892). In P.P.A. aphasia has a low rate development according to Weintraub, Rubin & Mesulam (1990). In subcortical dementias, the communication and language deficits has no difference, as in aphasia, that it is observed in cortical degeneration, (Albert et al., 1980). Dysarthria and preservations are the top characteristics of those types of dementia (Sandson, Obler & Albert, 1987).

Communication, language and speech deficits in dementia: Research data in Greek population**Dionysios Tafiadis**

Teaching Associate, T.E.I of Epirus, School of Health & Welfare, Department of Speech and Language Therapy & University of Ioannina, Department of Pre - School Education, School of Medicine, Department of Neural Sciences and Sensory Organs, Ioannina, Greece

In today's clinical practice speech, language and communication disorders need to be evaluated. Diagnostic scales such as 1. Mini Mental State Examination (M.M.S.E.), 2. Abbreviated Mental Test Score (A.M.T.S.), 3. Clock Test, 4. Instrumental Activities of Daily Living (I.A.D.L.), 5. Arizona Battery for Communication Disorders of Dementia (A.B.C.D.), 6. Neuropsychiatry Inventory (N.P.I.), 7. Geriatric Depression Scale (G.D.S.), and 8. Western Aphasia Battery - Revised (W.A.B. - R) are some which are used to evaluate in deep or to screen the language, speech and communication spectrum of demented population. The ability of naming, repetition, reading

and writing, language comprehension and language expression, praxis, the ability of calculation and mathematics, the visuospatial ability, and memory are aspects that these scales evaluate and copy. In this research the scales mentioned above were administered in Greek demented populations, as well as to non demented ones as control group, in order to copy all speech, language and communication deficits. The data analysis revealed statistical significant differences between all subgroups a) Dementia and controls, b) Dementia and Parkinson's disease, c) Parkinson's disease dementia (P.D.D.) and controls, d) Parkinson's disease dementia and Parkinson's disease, but no statistical significance between dementia and Parkinson's disease dementia. Also there was correlation between staging of the disease and tests scores as well as between tests score and the educational level of demented subjects, which suggests that as higher the educational level is "works" as a protective mechanism on dementia.

The effect of communication, language and speech deficits on quality of life in dementia

Maria Ignatiou

Teaching Associate, T.E.I of Epirus, School of Health & Welfare, Department of Speech and Language Therapy, Ioannina, Greece

According to the World Health Organization the Quality of life is defined as: "...individuals' perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of their environment", WHOQOL Group (1994).

Health related quality of life (HRQL) reflects the impact of a health state on a person's ability to lead a fulfilling life and incorporates the individual's perception of and satisfaction with his/her physical, mental/emotional, family and social functioning. HRQL measures are increasingly used to help us understand the impact of disease or disability on a person's life. They have a vital role to play in the development and evaluation of health care policies, planning of future health-care needs and evaluation of clinical treatment. Measuring HRQL is also an important outcome measure for clinicians as it allows them to see whether their interventions have positive effects on the everyday life of their clients.

HRQL is negatively affected by dementia. Studies report that low psychological well-being and depression, reduced activity levels and high levels of communication disability predict low HRQL in people with severe dementia and their proxies. People with mild or moderate dementia are often able to provide reliable information on the quality of life. Assessing the HRQL of people with severe dementia is a major challenge. People with severe dementia may not be able to self-report on HRQL measures. In such cases proxy respondents can be used, i.e. a significant other or a health professional can report on a client's HRQL as they think the client would if they were able to do it themselves.

Management of feeding and swallowing deficits in patients with dementia

Eleanna Virvidakis

Teaching Associate, T.E.I of Epirus, School of Health & Welfare, Department of Speech and Language Therapy, Ioannina, Greece

Patients with dementia are generally at high risk for dehydration and undernourishment. Aspiration pneumonia is the reported cause of death in a high proportion of patients diagnosed with Alzheimer's disease. In these patients, feeding difficulties usually present before swallowing difficulties.

Initially, patients develop an agnosia for food, thus they cannot visually recognize food when it is placed in front of them. As the disease progresses, they typically develop an apraxia for both feeding and swallowing. While the first compromises their ability to use utensils in order to feed themselves, the latter contributes to their difficulty in initiating the oral stage of swallowing. This explains their holding the food in their mouth without swallowing it. Additionally, patients with Alzheimer's disease often exhibit physiologic changes in the swallow, including a reduction in lateral tongue motion for chewing, a delay in triggering the pharyngeal swallow as well as motor abnormalities in the pharynx. These difficulties with eating and drinking can have an effect on a person's overall health, resulting in significant weight loss and worsening confusion. A critical aspect of feeding and swallowing assessment in demented patients involves the use of instrumental procedures in order to evaluate the risk of aspiration and the effectiveness of compensatory techniques used by the dysphagia specialist in order to make the appropriate diet recommendations. Scientists have developed a consensus over time as there is new, overwhelming evidence to support that tube feeding does not, in fact, improve quality of life nor does it reduce the risk for aspiration pneumonia. However, this decision of whether a PEG placement is indicated to maintain adequate nutrition and hydration still poses as a difficult, ethical consideration in this patient population.

16.00-17.30

SYMPOSIUM

ISSUES ABOUT FORESIC PSYCHIATRY IN GREECE

Chairpersons: **Athanasios Douzenis (Greece),**
Christos Tsopelas (Greece)

Mental illness in prisoners an overview of Greek findings

Athanasios Douzenis

Assistant Professor in Forensic Psychiatry, 2nd Psychiatry Department at Attikon University General Hospital, Athens University Medical School, Greece

Introduction: Mental illness occurs in every setting. In prisons it is established that psychiatric disorders are more commonly found than in a general population sample. In Greece there are limited data regarding the prevalence of mental illness in prisons.

Method: After randomising the population of two Greek prisons, psychiatric interviews were performed on 20% of the population. Data were collected on demographics, psychiatric diag-

noses and medication as well as functioning. This study was conducted in the prisons of Grevena and Halkida with the support of the Ministry of Justice and Human Rights.

Results: Preliminary results suggest that undiagnosed major psychiatric illness is present among 10% of prison inmates. Drug addiction affects an additional 10% approximately. There is overlap among individuals with the diagnosis of a psychiatric disorder and drug addiction. Personality disorder is diagnosed more often in individuals with addiction problems. The prison support services (psychologists and social workers) wherever available, are unable to cope with the level of psychopathology the inmates present. Prisoners who are diagnosed as mentally ill are transferred to the prison psychiatric unit.

Conclusion: These findings are alarming and call for more action in order to support mental health services in correctional institutions

Law and mental health in ancient Greece: The birth of a concept

George Tzeferakos

Psychiatrist, Scientific Associate, Forensic Psychiatric Unit of the 2nd Department of Psychiatry, "Attikon" Hospital, University of Athens, Greece

Introduction: In ancient Greece, as in all archaic civilizations, the approach to the different psychic phenomena was through a cosmogonic - theocratic perception. The mental disorder was mainly explained as a divine insanity - "ἄτη" - the result of the hubris. Through this "sacred" perception of the different phenomena, either natural/psychic or social/political, the rules of the social structure and human coexistence were forged. Thus, the primitive legal system of the ancient Greeks had also a divine origin, which made any attempt for alterations very difficult. Despite this fact, a gradual change can be traced peaking in the "classical" Athens of the 5th and the 4th century B.C. During this period, basic legal concepts were formed and so the foundations of the elaborate Roman legal system, precursor of the modern European one, were laid down.

Methods: An extensive review of the literature was done focusing on the development of the ancient Greek penal code, the evolving perceptions of mental health and disorder in the ancient Greek philosophical thinking and how these changing concepts can be traced in the ancient theatrical plays.

Conclusions: In ancient Greece, with the contribution of important scientists, artists and philosophers, a gradual shift took place in the concept of crime and criminal responsibility: the theocratic model was replaced by a more anthropocentric perception of the mental health and disease and of the laws and the justice.

Compulsory admission in Greece. Findings from 2 hospitals

Christos Tsopelas

NHS, Consultant in Adult General Psychiatry, Psychiatric Hospital of Attica, Greece

Psychiatry in a medical specialty where compulsory admission to hospital is the last option of the overall care provided to mentally ill patients. This is justified in terms of civil and human rights because of issues of protection of patient's and/or society members' life and health. Often in the minds of the treating psychiatrists issues of compulsory admission are without doubt

connected with the permission, or even obligation, to apply compulsory treatment methods in a routine daily base. Knowledge of current legislation although an important issue, is often limited or distorted leading to misunderstandings and increased possibility of violation of human rights of the mentally ill patients.

We have performed a study regarding knowledge and understanding of the law for compulsory admission in two settings (psychiatric hospital and psychiatric ward of a General Hospital) and we are drawing some interesting findings and conclusions.

We are considering that given the development of community psychiatry we should ask the involvement of patients' organizations and start implementing psychiatry based on unique individuals with unique needs, expectations, dangers and ideas. This would happen only if we change the legislation in order to reflect the contemporary psychiatry views in managing mental disorders.

Development of a multidisciplinary forensic mental health team in Greece

Georgia Kalemi

Psychologist, 2nd Department of Psychiatry, Medical School, National Kapodistrian University of Athens, Attikon Hospital, Greece

Forensic Psychiatry in Greece is a constantly rapidly growing sub-specialty of psychiatry. Establishing and organizing a service that will provide a stable environment for psychiatric offenders and criminals was a necessary move, that met a basic need of this relatively large and under-considered part of society. The foundation and operation of such a specific unit comes as an additional movement to the overall effort of the Forensic unit for a better understanding and support of these patients.

The Forensic Psychiatry Unit in Greece belongs to the 2nd Department of Psychiatry, Medical School, National & Kapodistrian University of Athens, at Attikon Hospital. **Its goal is the psychiatric support and follow-up of people with mental disorders and history of delinquent behavior** since these patients, after disengaging from the judicial system, encounter a double social stigma and, as a result, poor social services.

The multi-disciplinary forensic mental health team comprises of 4 psychiatrists, 3 psychologists and 1 social worker. In a relatively short period of time this department's activities have been developed, including: 1) evaluation, psychiatric treatment and follow-up at a 15-day basis, 2) Twice weekly visits for clinical work in the State Athens Prison's Psychiatric Unit, 3) educational lectures and meetings, 4) interactive case report presentations, 5) networking, 6) research and 7) publications (magazine "Ate").

17.30-19.00 **SYMPOSIUM**
THE EFFECT OF ALPHA ELECTROENCEPHALOGRAPHIC BIOFEEDBACK ON COGNITION AND HEART RATE VARIABILITY
Chairpersons: **Olga M. Bazanova (Russia),**
David Vernon (UK)

Background, rationale and methodological issues of alpha neurofeedback training

David Vernon

Senior Lecturer Dept: Applied Social Sciences Canterbury Christ Church University, Canterbury, UK

EEG biofeedback, also referred to as neurofeedback training, involves recording a particular component of an individual's EEG and feeding it back to her in real time using auditory, visual, or combined audio-visual information. The aim of this is to encourage the individual to learn to obtain a degree of conscious control over the EEG component such that she is able to alter it at will. Three plausible reasons have been proposed for conducting such training, these are: clinical, peak performance and functional validation of EEG. Some in-roads have been made in each of these areas. Nevertheless, a number of methodological questions remain concerning the nature of EEG biofeedback training which limits our understanding of the process and the possible effectiveness of the technique. This talk highlights some of these questions, outlining what we have found so far and suggesting some possible future directions.

The effect of alpha electroencephalographic biofeedback on cognition and heart rate variability

Olga M. Bazanova

Leading researcher in EEG, psychophysiology and neurofeedback, Institute of Molecular Biology and Biophysics, Siberian Branch Russian Academy of Medical Science, Novosibirsk, Russia

Objectives: Electroencephalographic (EEG) biofeedback represents a sophisticated technique that can be used to enable an individual to learn how to modify his own brain activity, which may lead to changes in both mental and physical behaviour.

The aim: In this study we examined the effects of EEG biofeedback training to enhance upper alpha power on changes in the EEG, improvements in cognition and alterations in heart rate variability. Twenty seven healthy male subjects (18-34 years) took part in 10 training sessions aimed at increasing power in individual upper alpha range. Fourteen of these participants were given real feedback based on changes in the power of their upper alpha range whilst the remaining 13 were given sham feedback and acted as controls. Measures of semantic working memory, creativity and heart rate variability were taken prior to and following the 10 training sessions, and again after a one month delay.

Results showed that only those given real feedback exhibited an increase in their resting alpha frequency, alpha peak frequency, power in the individual upper alpha range and an overall increase in alpha band width. There was also evidence of increased heart rate variability, although this was found only for those with low baseline alpha frequency. Furthermore, providing such feedback training eliminated the alpha power decrease seen during completion of an

arithmetic task in both high and low alpha frequency participants, and this was maintained after a delay of one month. In addition, those given real feedback also exhibited an increase in the accuracy of their semantic working memory performance as well as enhanced creative fluency. In contrast, those given the mock feedback showed no such effects.

Conclusion: Such findings suggest a role for alphaEEG biofeedback with regards to cognitive enhancement and may also play a role in clinical practice and brain-computer interface technology. In addition, the findings from this study will not only influence our understanding of the role that alpha activity plays in cognition but will also have important implications for the applied use of EEG biofeedback in studying cardio-cerebral interrelations.

The research was supported by BIAL 45/08 and RHF1 (10-06-00265a)

The frequency shift in the EEG alpha band during optimal performance by marksmen

Dmitry Napalkov

M.V. Lomonosov Moscow State University, Faculty of Biology, Moscow, Russia

EEG biofeedback holds the potential for retraining brain electrical activity to enhance performance in athletes in various sports (see e.g., Harkness, 2009). Nevertheless, the question of “precisely what brain activity should be trained” is far from clear. It is well known that skilled marksmen show a rise in amplitude of the EEG alpha rhythm during the aiming period, which is especially strong in the left temporal area. This phenomenon has been considered as a correlate of reduced activation in the related cortical areas during automated performance (Hatfield et al., 2004), shot-related intention (Shaw, 1996), or denoting a shift from visual to somatosensory attention (Napalkov et al., 2006). However, progress in understanding the mechanisms of this pre-firing increase in the alpha rhythm is hampered by lack of detailed knowledge of its characteristics.

Hence, we examined the phenomenon using a more detailed analysis of the alpha rhythm components in terms of its frequency and spatial domains. EEG was recorded at 13 scalp locations in 6 world-class marksmen (members of Russian National Team) and 12 novices, and the spectral power was analyzed in alpha 1 (7-9 Hz), alpha 2 (9-11 Hz) and alpha 3 (11-14 Hz) bands. In all these bands, the spectral power decreased in the novices and increased in the marksmen during the aiming period of a target pistol shooting task, compared to the eyes-open rest condition. The highest values during the aiming period were obtained in the marksmen in the alpha 3 band, where they were significantly higher than in novices at all locations except P3. At the occipital electrodes, the alpha 3 power increased in the marksmen in the aiming period even compared to the eyes-closed condition.

Interestingly, the spectrum peak of alpha band during the aiming period is not the same as for rest with eyes closed in the same individual. Each marksman showed an increase in EEG frequency during shooting. The mean group frequency of alpha rhythm (that of maximal amplitude with eyes closed, and depressed when eyes are open) was 10 Hz and the mean group frequency of alpha activity just before shooting was 12.6 Hz. For a methodology of neurofeedback in sport shooting it could be important to realize that in marksmen we are probably dealing with a phenomenon other than alpha rhythm in its usual classical definition. Nevertheless, such findings provide some plausible targets for EEG biofeedback training.

Keywords: alpha rhythm, EEG biofeedback, marksmen.

Effectiveness of upper alpha EEG biofeedback training may depend on the type of self-regulation technique and the level of resting baseline activity

Olga Yu. Lazareva

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Objectives: It has been shown that alpha biofeedback training is a prominent and useful technology for enhancing cognitive performance and improving behaviour of those diagnosed with psychosomatic disorders. However it has been noted that its efficiency does not exceed 70% (Monastra, 2002) and that factors influencing the training efficiency remain unclear.

Aim: This study examined the relationship between the type of self-regulation technique utilised by the participant and the effect this had on their ability to learn to alter their EEG via, biofeedback.

Methods: Twenty seven healthy male subjects completed 10 training sessions, 14 of which were given real feedback (BFT) based on the power of their upper alpha frequency, whilst the remaining 13 were given mock feedback and acted as controls (Mock BFT). Participants used a range of self-regulation techniques which are known to be associated with increasing upper alpha power: including: prolonged exhalation, posture control, forehead muscle relaxing, oculomotor technique, and mental images. Training session efficiency (learnability coefficient) was calculated as the ratio between the time of the successful periods of training to the time of the whole session.

Results: Showed that upper alpha- BFT had an impact on the level of alpha activity indices and cognitive performance enhancement, while mock BFT had no such effects. However, training session efficiency correlated with baseline individual alpha frequency rather than with a particular self-regulation technique. This showed that training efficiency of first session was higher in subjects with high alpha frequency, (HAF >10 Hz) than in LAF subjects (low alpha frequency, <10 Hz). Then after 10 BFT sessions, HAF subjects of experimental group did not increase the session efficiency while LAF increased training efficiency more than two times.

It can be concluded that the efficiency of BFT may depend more on the baseline individual alpha frequency than the particular strategy used.

Alpha peak frequency coherence biofeedback training in astronaut professional skill enhancement

Tatyana A. Ershova

Senior Researcher, the National Research Centre Institute for Biomedical Problems of the Russian Academy of Sciences, Moscow, Russia

People aiming to be astronauts must go through a rigorous training regime. This involves learning in a variety of settings and from a range of sources, including in the classroom survival techniques as well as the more traditional book and computer resources. Upon completion of

the training, their first job is usually in a supporting role such as helping at a launch examining hardware materials and making models for space cargoes. Once they're done with the job, they will resume their supporting roles. These astronauts are then trained for certain missions, often using simulators. This is where the astronauts under training work with the ground control team and shuttle crew in order to complete the computer-programmed tasks. In addition, they are also trained in more basic tasks which can include how to board a space shuttle, complete a spacewalk, execute emergency procedures and what to do during landing. For example, mooring a spaceship to the space station needs a high level coordination combined with low time and energy costs in performance. To help with such tasks biofeedback can be used as part of the astronaut training program to improve movement performance, self-control and coordination. Previously we have shown that individual alpha peak frequency inter- and intra-hemisphere coherence increases during successful psychomotor performance (Antonov et al 2007). Hence, we extended this to explore the effect of EEG biofeedback training aimed at enhancing alpha peak frequency coherence and the effect this would have on fine motor skills. Specifically, the ability of an astronaut to conduct a mooring maneuver with the "Soyuz". The highly skilled astronaut completed 5 sessions of such training. This elicited a change in alpha -peak coherence, increasing it in the target direction.. As a result the astronaut improved the quality of his spaceship mooring task by decreasing the time and energy costs for performance, increasing accuracy and coordination in manipulation skill. Inter and intra hemisphere alpha coherence was also increased. Hence, it can be concluded that EEG biofeedback skills may add important, valuable resources for the astronaut, and can play a major role in helping him get started with self regulation training.

Key words: alpha peak frequency coherence biofeedback, astronaut professional skill.

19.30-20.00

LECTURE

Chairperson: **Ioannis Giouzepas (Greece)**

Psychosis risk syndrome (PRS): Pharmacological interventions

George Garyfallos

Assistant Professor of Psychiatry, Aristotle University of Thessaloniki, 2nd Department of Psychiatry of the Psychiatric Hospital, Thessaloniki, Greece

The potential benefits of providing effective treatment for young people at psychosis risk syndrome (PRS) - known variably as ultra-high risk (U.H.R) - of developing a psychotic disorder have been recognized for some time. Interventions on this phase which can be divided to psychosocial and pharmacological, aim to reduce symptom severity, as well as to delay or even to fully prevent the onset of psychosis. There are few published studies to date that have studied the use of medications in PRS. Antipsychotic medication may delay conversion to psychosis and ameliorate symptoms, especially attenuated positive and brief limited psychotic symptoms (BLPS) during active phase of treatment but there is no evidence for lasting effects. The case against antipsychotics includes the possibility of the development of side effects and the stigmatization of the individuals. Antidepressants may have a beneficial effect by reducing depression and anxiety and by modulating the individual's response to environmental stressors. How-

ever, there is lack of randomized controlled trials (RCT) on this field. A third pharmacological option is the use of omega-3 fatty acids. According to the one existed RCT, omega-3 improve prodrome symptomatology and delay the transition to psychosis, effects which are sustained after cessation of the treatment.

In conclusion, according to the recent scientific findings, intervention on PRS has to follow the clinical staging model. As a first step one may use more benign interventions such as psychosocial or omega-3 fatty acids. Antidepressants may be useful if depression and/or anxiety are present. Antipsychotic medication should not be considered as first treatment option. However, a rapid worsening of antipsychotic symptoms together with significant decrease in functioning are indications for the use of a low dose of 2nd generation antipsychotics.

Friday, November 25th 2011

“Alexandros” Hall

09.00-09.30

LECTURE

Chairperson: Nikolaos Maglaveras (Greece)

Implementation (ICT tool) and evaluation of practice guidelines and information materials in mental health care workers (physicians and pharmacists)

Dimitrios Margaritis

Centre for Research and Technology Hellas (CERTH) Hellenic Institute of Transport (HIT), Greece

Background: The realisation of the need for alterations in existing guidelines on the way physicians and pharmacists prescribe and dispense medicines is a general goal of the European research project “DRUID” [1]. Experts have formulated new guidelines and protocols within the framework of the project.

Prescribing and dispensing guidelines developed within the DRUID project were evaluated in clinical practice settings as one of the tasks in Work Package 7. The primary goals of this task were to evaluate the effectiveness of the implementation of developed protocols and guidelines on healthcare professionals’ (physicians, pharmacists, nurses) attitude, knowledge and reported behaviour.

Materials and Methods: The target populations were health care professionals in the primary care setting: i) physicians (Belgium, Spain), ii) pharmacists (Belgium, the Netherlands, Spain) and iii) Nurses (Spain).

In addition, a “pure” control group was added to evaluate the effectiveness of current practices with no DRUID-relevant information.

Participants were introduced to the tools/software(s) used through a training scheme. Some of the participants did not receive training (e.g. the integrated group of physicians (SoSoeMe)). In addition, participants were informed about the DRUID guidelines regarding driving and medicines intake. The time sequence involved a standard procedure of recruitment, briefing, and consent. Participants filled in the pre-questionnaire at the start of their training and a post-questionnaire after six months of using the DRUID guidelines in their practice).

Overall composite scores were based on commonalities’ analysis across national studies with clustering of questionnaire items taken into account. Composite scores were created for three behavioural clusters: a) Reported Behaviour, b) Attitudes/Awareness, c) Actual Knowledge.

Results:

Physicians

Almost 74% of participants received no education regarding medicines and driving during their academic studies and their professional participation in post-graduate education.

The knowledge received during the training did change their knowledge about the potentially detrimental effects of medicines on driving fitness for more than half the participants (55%). After the implementation of DRUID guidelines, a 10% increase difference in the positive change in Reported Behaviour was observed in the overall physicians’ samples across the country studies.

Pharmacists

The majority of pharmacists (67%) had not received any type of (post-graduate) education on

medicines and driving with the exception of the participants in the Spanish study where half the participants had received relevant education (51%). Pharmacists showed an overall positive change in all behavioural clusters under study. Pharmacists incorporated driving related information in their daily dispensing practice. The DRUID guidelines were well received and viewed as an addition to existing guidelines.

Conclusions: Positive change has been found for both professional groups but for pharmacists this was revealed for all clusters of behavioural items under investigation. The application of DRUID guidelines was successful and pinpoints the readiness of health care professionals to adopt them. Physicians and pharmacists have shown a change in behaviour after the implementation of DRUID guidelines, therefore these guidelines could be successfully incorporated in existing decision support systems. These guidelines fill in an important “gap” linking prescribing and dispensing of medicine with both patient and road safety.

Acknowledgements

This study was conducted under the framework of DRUID European Integrated Project and was successfully completed with the close collaboration of research teams from several European countries.

References

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2. Cabana, M. D., Rand, C. S., Powe, N. R., Wu, A. W., Wilson, M. H., Abboud, P. A., & Rubin, H. R. (1999). Why don't physicians follow clinical practice guidelines? A framework for improvement. *Journal of the American Medical Association*, 282, 1458-1465.

09.30-11.00 **SYMPOSIUM**
NOVEL TECHNOLOGIES AND PROCEDURES IN THE DIAGNOSIS AND TREATMENT OF MENTAL DISORDERS
Chairpersons: **Nikolaos Maglaveras (Greece),**
Konstantinos N. Fountoulakis (Greece)

The role of digital health platform in mental health policy

Ioanna Chouvarda

Lecturer in Medical Informatics, Aristotle University of Thessaloniki Greece

The digital health platform for mental health consist of is the technological infrastructures and services that aim in: a) the support of physical and and mental health of subjects that belong to socially vulnerable groups, b) their social rehabilitation, c) alleviating exclusions and improving their quality of life, ensuring their access to social benefits. These services can be implemented in primary care, at the level of Municipalities or Regions. In this scope, indicative services, based on information and communication technologies, are presented and specifically:

- 1) The Social Map electronic system, which records in a central base the individuals tha belong to vulnerable groups. Via a web-based application, data of individuals are recorded , related to social and psychopathologic conditions. This procedure is followed by a classification of individuals's data, to stratify and prioritize individualised interventions. Thepersonal recorded data (demographic, economic, health) constitute the Electronic Social File

of this individuals, which is also contained in individual's electronic card. Part of this service already has been implemented with success in the Municipality of Thessaloniki.

- 2) Screening services for the elderly, via biosensors and web-enabled tele-monitoring applications, aiming at detecting cases needing further medical diagnosis or assistance. These services have been implemented in six centers for elderly citizens of the Municipality of Thessaloniki.
- 3) A potential extension to home-based services for the ubiquitous support of chronic diseases, along with stress and sleep management, based on biosensors and mobile technologies.

Novel technologies for ubiquitous monitoring and management of neurological/mental disorders: The role of ambient assisted living approaches

Mary Panou

Senior Researcher of the Hellenic Institute of Transport, Greece

The needs of modern society, especially regarding the elderly and all people suffering from various neurological disorders along with stress and depression constitute a major problem in the field of medicine and society, and may be overcome to some extent by using New Technologies, such as new micro and nano-sensors, new software programmes, assistance at home but also by a personalized mode of health services, to achieve the best possible result. CErTH/HIT has participated in various research endeavours ranging from investigating ICT targeted applications to elderly demented users, with emphasis on brain training activities, to edutainment activities incorporated in daily living. Further activities involve the investigation of 3rd generation access techniques that provide a more accessible, viable in the market and deeply embeddable approach in mainstream ICT (desktop, rich Internet and mobile applications) for people with cognitive limitations. Additional work has been undertaken in the health monitoring area in order the health care practitioners remotely perform health care check-up routines. The ICT "know-how" and expertise has led to the development of refined applications, specifically targeting isolated elderly and people with chronic conditions. Those new technologies are also tailored to support people with neurodegenerative disorders, psychiatric diseases, and other diseases, including simulations in research environments, such as domotic laboratories. This session analyses these key technologies and their applications to elderly and people with cognitive and mental health problems.

Methods for automated evaluation of neuropsychological and psychometric tests in routine clinical practice

Xenia Gkontra

Research Assistant at Informatics and Telematics Institute - CErTH, Thessaloniki, Greece

Neuropsychological and psychometric tests (NPTs) are commonly used in clinical practice to assess brain functioning. Within a variety of available NPTs, Alternating Sequence Tests, introduced by Luria, are assessment tools which are widely used in the study of frontal lobe patients, including patients with schizophrenia. Test subjects are asked to copy a series of alternating

shapes, such as a sequence of alternating peaks and rectangles, known as Graphic Sequence Test (GST).

Performance assessment of NPTs has traditionally been performed manually, a tedious and time-consuming process. In addition, manual scoring can be problematic due to both human errors and raters' subjective judgement, even when standardized scoring instructions have been provided. Automated evaluation of NPTs can therefore prove to be of great importance to everyday clinical practice because it speeds-up the evaluation process and it also makes testing more valid and reliable by increasing the robustness of the scoring process. Furthermore, computerized evaluation of NPTs can assist psychiatrists in detecting inappropriate patient's responses which have been widely ignored until now but could be of significant diagnostic importance.

Preliminary results arising from the application of GST automated scoring method hereby presented are encouraging and demonstrate that the use of automated evaluation of NPTs is a step forward to improved assessment of NPTs.

Applying the digital health platform in the survey of vulnerable groups residing in Thessaloniki: Results and outcomes

Konstantinos N. Fountoulakis

Assistant Professor of Psychiatry, 3rd Department of Psychiatry, School of Medicine, Aristotle University of Thessaloniki, Greece

During a project of registration and supportive intervention for vulnerable groups in the municipality of Thessaloniki (homeless, unemployed, single parent families, persons prone to violence or suicidal behavior etc.) an innovative digital platform was used in order to gather and organize the data. The results from the first 728 records suggested that these vulnerable groups manifest high levels of depression (5-fold) and suicidality (10-fold) in relationship to the general population. The detailed registration of characteristics made possible the development of a comprehensive proposal of intervention based on early identification and targeted long term intervention.

11.00-12.30

SYMPOSIUM

CHRONIC FATIGUE SYNDROME (MYALGIC ENCEPHALOMYELITIS): RECENT ADVANCES IN NEUROBIOLOGY AND TREATMENT GUIDANCE

Chairpersons: **Basant K. Puri (UK),
Sofia Tsaluchidu (Italy)**

Research and treatment: The patient's perspective

Clare Palmer

Academy of Nutritional Medicine, UK

This lecture will cover the patient's perspective regarding research and treatment into this disease. This will include a consideration of the advantages and disadvantages of different diag-

nostic criteria, such as the Fukuda criteria, the Canadian criteria, the Oxford criteria and the London criteria. The position of patients regarding a biological model of research and treatment compared with a more psychiatric model will also be discussed, within the biopsychosocial perspective.

Neuroimaging studies

Basant K. Puri

Professor of Psychiatry, Imperial College London, UK

It is not established whether or not myalgic encephalomyelitis/chronic fatigue syndrome (CFS) is associated with structural brain changes. In this lecture the findings of previous studies will be reviewed and then the results of a new study by our group will be presented. The aim of our study was to investigate the possibility of structural brain changes by conducting the largest voxel-based morphometry study to date in CFS. High-resolution structural 3-T cerebral MRI scanning was carried out in 26 CFS patients and 26 age- and gender-matched healthy volunteers. Voxel-wise generalised linear modelling was applied to the processed MR data using permutation-based non-parametric testing, forming clusters at $t > 2.3$ and testing clusters for significance at $p < 0.05$, corrected for multiple comparisons across space. Significant voxels ($p < 0.05$, corrected for multiple comparisons), depicting reduced grey matter volume in the CFS group, were noted in the occipital lobes (right and left occipital poles; left lateral occipital cortex, superior division; and left supracalcrine cortex); the right angular gyrus; and the posterior division of the left parahippocampal gyrus. Significant voxels ($p < 0.05$, corrected for multiple comparisons), depicting reduced white matter volume in the CFS group, were also noted in the left occipital lobe. These data support the hypothesis that significant neuroanatomical changes occur in CFS, and are consistent with the complaint of impaired memory that is common in this illness; they also suggest that subtle abnormalities in visual processing, and discrepancies between intended actions and consequent movements, may occur in CFS.

Sleep studies

Ian H. Treasaden

Head of Forensic Neurosciences, Lipid Neuroscience Group, Imperial College, London, and Clinical Director, Three Bridges Medium Secure Unit for Mentally Disordered Offenders, West London Mental Health NHS Trust, UK

Unrefreshing sleep is a common complaint of patients suffering from chronic fatigue syndrome (myalgic encephalomyelitis). Recent, polysomnographic, sleep studies have had the disadvantage of placing patients in an unfamiliar environment, which may have adversely impacted on their sleep. The advent of ambulatory actigraphy allows sleep in this patient group to be studied in the more natural setting of the home. Here, we on a natural, home-based study of sleep characteristics in this disorder using objective actigraphy-based measures. Eighteen patients meeting the revised diagnostic criteria for chronic fatigue syndrome of the Centers for Disease Control and Prevention were recruited into this study and compared with 18 age- and gender-matched healthy normal control subjects. Overnight, non-restrictive actigraphic recordings

were obtained at the subjects' homes over the course of two to three consecutive nights from all 36 subjects; the Insomnia Severity Index was also administered. Compared with the controls, the patients had lower sleep efficiency ($p=0.018$), spent a longer time in bed ($p=0.001$), had a higher assumed sleep time ($p=0.006$), and a higher mean number of sleep bouts ($p=0.016$) and wake bouts ($p=0.016$); they were also more likely to suffer from insomnia ($p<0.0005$). We conclude that our findings provide objective evidence for abnormalities in the sleep characteristics of patients with chronic fatigue syndrome (myalgic encephalomyelitis). This is consistent with the complaints in this disorder of unrefreshing sleep and may be associated with their diurnal physical tiredness and complaints of mental fatigue.

The immune system: A combined approach to treatment

Raymond Perrin

Honorary Senior Lecturer, School of Public Health and Clinical Sciences, University of Central Lancashire, UK

The lecture will show that chronic fatigue Syndrome CFS/ME also known in some parts of the USA as Chronic Fatigue Immune Deficiency Syndrome (CFIDS) belongs to a group of neurolymphatic disorders where the principle dysfunction within the neuraxis affects the autonomic nervous system, the lymphatics and ultimately the immune system.

Research findings will be discussed that have demonstrated neuro-immune disturbance in the pathophysiological mechanisms found in CFS/ME leading to many other disturbing physical, cognitive and emotional symptoms.

Dr Perrin will also reveal how the latest studies combined with 22 years of clinical research into the neurobiology of CFS/ME has led to a system to aid in the diagnosis and treatment of this perplexing disorder.

The psychopharmacological role of LC-PUFAs

Sofia Tsaluchidu

University of Bologna, Italy

This lecture will describe evidence for a functional deficiency of LC-PUFAs in many patients with chronic fatigue syndrome, including the results of peripheral blood studies and human central nervous system spectroscopy studies. The lecture will then describe the psychopharmacological use of these important bioactive naturally occurring compounds in this patient group.

13.00-14.30

SYMPOSIUM**DYSTHYMIC DISORDER: NEWER DATA**Chairpersons: **Konstantinos N. Fountoulakis (Greece),
Charalambos Touloumis (Greece)****Epidemiological and clinical aspects of dysthymic disorder****Spyridon Kleisas**Resident in Psychiatry, 1st Psychiatric Department, Psychiatric Hospital of Attica, Greece

Dysthymic disorder can be described as a low grade (persistent or intermittent) and protracted (for at least 2 years) depressive substrate with insidious onset, in which the individual experiences depressed mood for most of the day and at least 2 other symptoms of depression. It can be considered the depressive disorder analogue of cyclothymic disorder. Together, the two represent the prevalent sub-threshold mood conditions roughly corresponding to the basic temperamental dysregulations described by Emil Kraepelin and Ernst Kretschmer as predisposing to affective illness (although sometimes they might not progress to full-blown mood episodes; in this respect dysthymic disorder can be considered as a trait depressive condition).

According to NIMH, the 12-month prevalence for dysthymic disorder is 1.5% of the adult population of U.S., and the lifetime prevalence is 2.5% for adults, and 11.2% for adolescents. Typical patients with dysthymic disorder complain that they have “always” been depressed. Most cases are of early onset beginning in childhood or adolescence and certainly by the time patients reach their 20’s. A late onset subtype, much less prevalent and not well clinically characterized has been identified among middle-aged and geriatric populations, largely through epidemiologic studies in the community.

The clinical picture of dysthymia is quite varied with some patients proceeding to major depression whereas others manifest the pathology largely on a personality level. Thereby, a clinically satisfactory approach of dysthymia must target symptomatic, cognitive and trait characteristics. Subthreshold conditions such as dysthymic disorder can occasionally devastate the lives of patients and their significant others because they appear to be a receptive ground for interpersonal conflicts and post-affective pathological character developments. At the same time, they can also be compatible with relative stable social functioning. In some cases, individuals with dysthymia might be labeled as patients with borderline personality disorder, a diagnosis that might obscure the affective origin of their psychopathology.

Newer data imply that this temperament, leading to subthreshold forms of affective illness might entail some positive “aspects”, augmenting attributes such as sensitivity to human suffering (thereby promoting altruistic behaviour and social coherence) and tendency to work dedication (maybe as an overcompensation against inertia), leading Ernst Kretschmer to characterize these people as the “backbone of society”.

Treatment of dysthymic disorder

Anastasios K. Papakonstantinou

Resident in Psychiatry, MSc in Clinical Psychopharmacology, MSc in Sexual Medicine, MSc in Clinical Sexology, 1st Psychiatric Department, Psychiatric Hospital of Attica, Greece

Psychotherapy and pharmacotherapy can be both effective treatment modalities for dysthymia and their use in combination may be much more effective.

Placebo controlled medical trials suggest that SSRIs (including fluoxetine, sertraline, citalopram) due to their superior tolerability and side-effect profile were considered as the first-line treatment of dysthymic disorder. In the case of failure or intolerance to SSRIs, the TCAs amitriptyline, desipramine, and imipramine or the reversible MAOI moclobemide should be tried. The reversible MAOI phenelzine has shown superior effectiveness, but it should be reserved as third-line therapy due to its less-favorable side-effect profile and dietary restrictions.

Although the optimal length of pharmacotherapy in dysthymia has not been studied in a controlled trial, a course of treatment with an antidepressant for at least 2–3 years is recommended, in similar doses to those given for acute treatment of a major depressive episode. Recent meta-analysis support that the margin of efficacy of antidepressants for dysthymic disorder was larger than for MDD.

Success has also been reported with noradrenergic agents, such as mirtazapine, venlafaxine, duloxetine, and bupropion.

Electroconvulsive therapy (ECT) has been suggested by some clinicians as a third-line treatment in dysthymic disorder, but there are no well-established or consistent data about its efficacy. Currently, most of the suggested treatment algorithms do not include ECT as an option.

The third-line of treatment options are usually second-generation antipsychotics (SGAs) and combination therapies. SGAs have beneficial effects compared to placebo, but most of them have shown worse tolerability, mainly due to sedation, weight gain, or laboratory data abnormalities such as prolactin increase. Among the SGAs, amisulpride has shown the most consistent beneficial effects in dysthymic disorder, especially when given in low doses (e.g. 50 mg/day). Some other data suggest the efficacy of olanzapine in dysthymia, particularly if there is comorbidity with borderline personality disorder.

Different types of psychotherapy, including cognitive behavioral therapy, psychodynamic, and insight-oriented or interpersonal psychotherapy, can provide effective treatment to persons with dysthymia. Cognitive Behavioral Analysis System of Psychotherapy (CBASP) is a form of psychotherapy that was specifically developed for patients with chronic depression. CBASP is more structured and directive than interpersonal psychotherapy and differs from cognitive therapy by focusing primarily on interpersonal interactions, including interactions with therapists. Through this psychotherapy, patients come to recognize how their cognitive and behavioral patterns produce and perpetuate interpersonal problems and learn how to remedy maladaptive patterns of interpersonal behavior.

Double depression

Achilleas Economou

Resident in Psychiatry, "18 Ano" Alcohol Disorders Outpatient Clinic, Psychiatric Hospital of Attica, Greece

Double depression occurs when an individual who suffers from dysthymia falls into a major depressive state. It is not a new concept, but therapists know little about the characteristics that distinguish double depression from dysthymia or major depression alone. The significance of double depression resides in the fact that it is under-recognized and harder to treat than either dysthymia or major depression by when they occur individually. Furthermore, double depression predicts treatment resistance and recurrence or relapse. Patients with double depression have similar response rates to those with episodic major depression alone but are left with higher levels of mild depressive symptoms at the end of treatment.

High levels of hopelessness have been reported in double-depressed patients, whereas patients with either major depression or dysthymia show only moderate levels. New studies claim that two important factors which affect the successful treatment of double depression are the sense of hopelessness and the chronic nature of the underlying dysthymia.

16.00-17.00

LECTURE

Chairperson: **Panagiotis Grigoriou (Greece)**

Genetics in Psychiatry: An update

Dimitrios Dikeos

Associate Professor of Psychiatry, University of Athens, Greece

The majority of psychiatric disorders, mainly the major ones, have been shown by family, twin and adoption studies to be highly heritable, but the identification of specific genes has yet to be achieved. The first molecular studies on specific candidate genes and the older whole genome linkage studies had provided results which were at their majority not replicated. Latest genome screens have identified both rare copy number variants (CNVs) and common single nucleotide polymorphisms (SNPs) associated with major psychiatric disorders, but all genes identified up to date seem to have generally small effects and to explain little of the observed familiarity of these disorders. Recent research is directed towards collaborations that include very large populations of patients and control subjects for genome-wide association studies (GWAS), the search for rare CNVs, and the analysis of genes taking into account the place that their products have in various molecular pathways in the cell and synapses. Based on such studies, the association of some genes and chromosomal regions with major psychiatric disorders has been replicated, while it has been observed that some of those associations are shared among various disorders such as schizophrenia, mood disorders and autism. Another line of research is aimed at the understanding of the role genetic factors play in the treatment response to various pharmacological and other agents; although certain findings are emerging, this field is still far from being able to be implemented in the clinical practice. Finally, various interaction studies

that are seeking to explain the complex relations between genetic predisposition on the one hand and environmental influences on the other, have produced interesting results, which will be briefly discussed.

17.00-17.30 **Lecture**
Chairperson: **Grigoris Abatzoglou (Greece)**

Evidence based treatment for eating disorders

Janet Treasure

Director of the Eating Disorder Unit and Professor of Psychiatry at University College London, UK

Since the NICE guidelines for the management of eating disorders was developed based on wherever possible on a systematic review of the literature there have been other reviews on specific areas such as Cochrane review and World Biological Psychiatry reviews. In essence the gist of treatment for eating disorders has not altered. Involving the family is helpful as an early intervention for anorexia nervosa but less is known about how to help those with a more chronic form of illness. CBT is effective for about 50% of cases of bulimia and the addition of medication may increase the remission rate. A similar pattern is apparent for binge eating disorder. More evidence is becoming available on guided self directed care which aside of the advantages of lower cost and transferability appears to have benefits for long term effects even for those with complex presentations

17.30-19.00 **SYMPOSIUM**
MAINTENANCE STUDIES IN BIPOLAR DISORDER - METHODOLOGICAL CONSIDERATIONS AND EVIDENCE
Chairperson: **Heinz Grunze (UK)**

The impact of the design of relapse prevention and maintenance studies on outcome

Willem Nolen

Professor of Psychiatry, especially Affective Disorders, Head of Department for Affective Disorders, University Medical Center Groningen, Groningen, The Netherlands

Background: Since the 1970ies many studies, including randomized controlled trials (RCTs), have addressed the long-term treatment of bipolar disorder, resulting in the registration of various drugs for maintenance treatment, such as lithium, the anticonvulsants carbamazepine, valproate and lamotrigine and various antipsychotics. However, the designs of the studies varied substantially, leading to difficulties in translating the results to implications for clinical practice.

Method: Various designs to investigate efficacy or effectiveness will be discussed

Results: Efficacy of most drugs has been shown in RCTs versus placebo with an enriched design: initially the drug is given as open treatment during an acute manic or depressive episode, after which responders who also tolerated the drug are randomized to continue the drug or to switch to placebo. In some of these studies there is a third arm in which patients are switched

to a standard treatment, resulting in an unfair comparison of the new drug versus the standard drug. Only few drugs have been studied as pure prophylactic drugs, i.e. in designs in which the drug was not started during an acute episode, but while patients were in remission.

Effectiveness can best be studied in more pragmatic trials. Examples are trials in which patients start with a combination of two drugs to treat an acute episode, while patients who respond are then randomized to continue monotherapy with either drug, plus in some studies to other options such as continuing with the combination or switch to placebo

Finally, there are examples of large naturalistic studies in which cohorts of patients have been followed regarding their use of various drugs.

Conclusions: Understanding the impact of various designs is necessary for translating the results of efficacy and effectiveness studies into implications for clinical practice.

Individualized long-term treatment: Can predominant polarity guide the choice?

Dina Popovic

Bipolar Disorders Program of Hospital Clinic, University of Barcelona, Spain

Due to the episodic and chronic nature of Bipolar Disorder, maintenance therapy represents a critical part of treatment. Over one half of bipolar patients have been reported to be more prone to either depressive or manic relapses. Our group has aimed to define profiles of drugs used for maintenance treatment of Bipolar Disorder by the means of Polarity Index.

Polarity Index is an innovative metric indicating antimanic and antidepressive prophylactic potential of drugs, retrieved by calculating Number Needed to Treat (NNT) for prevention of depression and NNT for prevention of mania ratio, as emerging from the results of randomized placebo-controlled trials.

The polarity index provides a measure of how much antidepressant versus antimanic a drug is in bipolar disorder prophylaxis, in order to aid the clinicians to implement maintenance therapy in bipolar patients.

The updated WFSBP maintenance guidelines: The evidence for relapse prevention and prophylaxis

Heinz Grunze

Professor of Psychiatry, Newcastle University, Newcastle upon Tyne, UK

Starting with Kraepelin, several long-term observational studies have demonstrated that the duration of the symptom-free interval is inversely linked to the number of episodes (1). Likewise, aspects of cognitive impairment are associated with increasing episode frequency (2) leading to lasting psychosocial and work impairment. Finally, bipolar disorder is associated with an excess mortality including an increased risk of suicide (3). Thus, prevention of new episodes is one of the ultimate goals in treating bipolar disorder. Long-term treatment in bipolar patients is traditionally divided into continuation and maintenance (or prophylactic) treatment, which are, in turn, associated with the starting points “remission” and “recovery”, respectively. The fast majority of long term treatment regimens develop out of an acute treatment plan which has lead

to symptomatic remission. Thus, and with the exception of lithium, the majority of evidence has been derived more recently from prolongation studies of acute responders to antimanic or antidepressive treatment in an enriched design. Aspects as enrichment and the ability to distinguish between relapse and recurrence need to be considered when giving recommendations for long-term treatment. Taking these aspects into account, the 2011 WFSBP guideline backs up the still exceptional position of lithium, but also supports the evidence-based use of aripiprazol, carbamazepine, lamotrigine, olanzapine, quetiapine, and risperidone as monotherapies, together with some rigorously tested combination treatments.

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19.00-19.45

GOLD MEDAL LECTURE

Chairperson: **Hagop S. Akiskal (USA)**

The role of art in understanding the brain

Semir Zeki

Professor of Neuroaesthetics, University College London, UK

The acquisition of knowledge is one of the primary functions of the brain, and art is one means of acquiring knowledge. Knowledge, how we acquire it and how certain we are of what we know, is one of the major concerns of philosophy. It is therefore not surprising that some of the greatest philosophers - among them Aristotle, Plato, Kant and Schopenhauer - devoted significant portions of their writings to the question of art. And it should come as no surprise either that neurobiology should turn to art in trying to understand how we acquire knowledge. Wittgenstein rightly denounced as false the notion that science is for knowledge while art is for pleasure, for a great deal of knowledge can be obtained through art. But that knowledge is often emotional knowledge, commonly related to the experience of beauty and pleasure and not easily accessible to the cognitive brain, which is why volumes written about the Pietà of Michelangelo are no substitute for a brief glimpse of it.

Perceptive organs have had primacy in philosophical debates about the experience of art and beauty. In this lecture I will describe how our view of the role of the perceptive organs, extending from peripheral organs to cerebral cortex, has changed over the past thirty years. I will also describe how this new knowledge can contribute to our understanding of the role they play in acquiring knowledge and experiencing beauty.



20.00-21.30

SATELLITE LECTURE

Chairperson: **Ioannis Giouzepas (Greece)**

The Satellite Lecture is sponsored by AstraZeneca

Major depressive disorder: Aiming at remission after failure of the initial treatment

Konstantinos N. Fountoulakis

Assistant Professor of Psychiatry, 3rd Department of Psychiatry, School of Medicine, Aristotle University of Thessaloniki, Greece

Major depressive disorder is a common and disabling illness causing enormous burden on individuals and society. In spite of the recent advances in the pharmacological treatment of depression, many patients remain ill after initial treatment. Beyond first-line treatment, current guidelines recommend either augmentation (with lithium, thyroid hormone, pindolol, psychostimulants, second-generation antipsychotics etc.) or switching to other class of antidepressants and finally antidepressant combinations. An inherent disadvantage of any switching strategy is that partial treatment responses resulting from the initial treatment might be lost by its discontinuation in favour of another medication trial. Adjunctive lithium and thyroid hormone have established efficacy, however it is based on data which might not correspond to contemporary clinical reality. After failure of a first-line SSRI, neither a switch within class nor a switch to a different class of antidepressant is unequivocally supported by the data, although switching from an SSRI to a double acting agent may potentially offer greater benefits. Of all strategies to augment response to new-generation antidepressants, quetiapine and aripiprazole are best supported by the evidence. Nonpharmacological strategies include psychotherapy (often in conjunction with pharmacotherapy), electroconvulsive therapy and vagus nerve stimulation.

Saturday, November 26th 2011

“Alexandros” Hall

09.00-09.30 **LECTURE**
Chairperson: **Nikiforos V. Angelopoulos (Greece)**

The role of the DRD4 in working memory and cognitive function

Evangelia Tsapakis

Visiting Research Associate, MRC SGDP Centre, Institute of Psychiatry at King’s College, London, UK

Dopamine D4 receptors mediate a wide range of neuronal signal transduction cascades. Malfunctions of these mechanisms may contribute to the pathophysiology of neuropsychiatric disorders, and their modification underlies the actions of many psychotropic drugs. Postmortem neuropathological and genetic studies provide inconclusive associations between D4 receptors and schizophrenia. Clinical trials of partially selective D4 antagonists have proved them to be ineffective against psychotic symptoms in patients diagnosed with schizophrenia. However, associations are emerging between D4 receptors and other neuropsychiatric disorders, including attention-deficit hyperactivity disorder as well as specific personality traits such as novelty seeking. Preclinical studies indicate that D4 receptors play a pivotal role in the cellular mechanisms of hyperactivity, impulsivity, and working memory. Since the dopamine D4 receptor is highly expressed in the prefrontal cortex (PFC), we hypothesized that it may also contribute to working memory. To test this hypothesis, we examined the behavioral effects of L-745, 870, a highly selective, centrally active, D4 antagonist, using a delayed alternation task in rats. A significant role of the D4 receptor in working memory was shown, suggesting innovative, D4-based treatment of cognitive deficits associated with neuropsychiatric disorders. Thus, D4 receptors may have broader implications for human illnesses than has been suggested by early focus on psychotic illness as a clinical target, and selective D4 agents may yield clinically useful drugs for several neuropsychiatric disorders that require improved treatments.

09.30-11.00 **SYMPOSIUM**
THE COMPLEX FACE OF BIPOLAR ILLNESS
Chairperson: **Giulio Perugi (Italy)**

Physical, behavioural and neurodegenerative comorbidity in bipolar spectrum disorder

Giulio Perugi

Professor of Clinical Psychiatry and Psychopharmacotherapy, University of Pisa, Italy

Background: High rates of comorbidity between bipolar disorder and physical illnesses such as metabolic, endocrine and autoimmune-allergic diseases have been reported in clinical and epidemiological studies. Few research explored the possible relationships between clinical and course characteristics of the mood disorder and specific physical illnesses.

Method: We reported data derived from a sample of 201 bipolar patients consecutively referred to outpatients and inpatients units of the Department of Psychiatry of the university of Pisa, Italy. All patients have been selected on the basis of DSM IV criteria for Bipolar I, II and

NOS and have been evaluated by means of structured and semi-structured interviews, exploring diagnostic criteria (*Structured Clinical Interview* for diagnosis-SCID) and familial, clinical, course, comorbidity and treatment characteristics of the mood disorder (*Structured Interview for Mood Disorders*-SIMD). CGI for severity of the illness, GAF score for functional adjustment and TEMPS-35 for affective temperaments have been also administered. Finally, all patients have been carefully screened for physical illnesses by anamnesic interview and physical examination.

Results and Discussion: In our sample high rates of metabolic and immuno-allergic diseases have been founded. More than $\frac{1}{3}$ of our patients reported at least one metabolic disease with similar rates in males and females. Such a comorbidity was more represented in bipolar I than in bipolar II patients and was related to the age and severity of the bipolar disorder measured by CGI score. Life-style and drug treatment may play a role in this type of co-morbidity. Interestingly, about 40% of our sample reported immunoallergic diseases. Such a prevalence was about 5 times the general population and was similar in males and females. Differently from metabolic comorbidity, there was no relationship with bipolar subtype, severity of the illness and age. Comorbid anxiety disorders were more common in bipolar patients with immuno-allergic diseases.

Conclusion: Our results suggest the existence of specific bipolar subtypes on the basis of comorbid physical illnesses. Further research in epidemiological sample is necessary order to better define this association.

Eating disorder, obesity and bipolarity: A complex relationship

Alfonso Tortorella

Assistant Professor, Department of Psychiatry, Second University of Naples, Italy

Eating Disorders (EDs) are a growing clinical problem with significant psychosocial and economic consequences. EDs are frequently associated with major affective disorders, mainly with Bipolar Disorder (BD) (1). It has been well documented that there is a co-morbidity of these disorders and the prevalence of EDs is considerably higher in BD patients (up to 3.6 to 10%) (2). The national comorbidity survey show that high rates of lifetime diagnosis of any anxiety disorder (80.6%), mood disorder (70.7%), or substance use disorder (36.8%) comorbid with Bulimia Nervosa (BN) in particular and EDs in general. (3).

Despite these studies have shown that lifetime prevalence rates of EDs are higher than previously thought in BD patients, the correlates of EDs co-morbidity in patients with BD are only partially understood. Broadening the boundaries of bipolarity with the inclusion of more comprehensive term for bipolar conditions, beyond classic mania, can help us to improve the understanding of this relationship. The "soft bipolar spectrum" including depressions with hypomanic episodes (proper BP-II), as well as those coming up from familial bipolarity or characterized by cyclothymic and hyperthymic traits, suggest the existence of a significant clinical and biological overlap between EDs and BD (4).

Comorbidity appears mainly elevated between DB type II and all EDs with impulsive behaviour and loss of control in the food intake like Anorexia Nervosa, (AN), Bulimia Nervosa (BN) and Binge Eating Disorder (BED) - obesity. Moreover it is well documented that that bipolar patients with eating disorders have more weight disturbance, more depressive episodes or recurrences, and greater psychiatric comorbidity than bipolar patients without eating disorders (McElroy et al., 2002; Perlis et al., 2006; Wildes et al., 2007a).

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2. J Affect Disord. 2011; 128(3):191-8
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Adult ADHD in bipolar patients

Cristina Toni

Institute of Behavioural Science “Gianfranco De Lisio”, Italy

Objective: It has been suggested that bipolar disorder (BD) with comorbid ADHD represents a distinct clinical phenotype of BD. With the aim to assess the impact of ADHD in adult patients diagnosed with BD, we performed a cohort study to investigate the prevalence, clinical and epidemiological features associated to such comorbidity.

Methods: A total of 96 outpatients (aged 18-65 years) with BD were included. All patients were screened using the Adult ADHD Self-report Scale (ASRS) v. 1.1 and the Diagnostic, Clinical and Therapeutic Checklist (DCTC), a semi-structured interview developed for the diagnosis of major Axis I and Axis II psychiatric diagnoses in accordance to DSM-IV criteria, relative Axis I comorbidities and drug history. The DCTC also include the Clinical Global Impression Bipolar (CGI-BP) scale, assessment of social adaptation level by the Global Assessment of Functioning (GAF) scale and the Sheehan Disability Scale (SDS).

Results: Nineteen patients out 96 (19.8%) fulfilled both DSM-IV and ASRS v 1.1 criteria for ADHD. Compared to “no-ADHD” subjects, ADHD patients shown higher rates of current mixed episodes (22.1%, n=17 vs. 52.6%, n=10; p=0.02), and according to CGI-BP appeared more severe as showed by higher mean scores (2.4 SD 1.6 vs. 1.8 SD 1.4; p= .13). None of the “ADHD” patients was in remission at recruitment time, versus 31.2% (n = 24), p=.003, belonging to the “No-ADHD” group evaluation with a statistically significant level, and also if you consider BD I group (0%, n=0 vs. 19.5%, n=15; p=.03). Polarity current mood’s evaluation at recruitment time in our sample showed differences with a statistically significant level for the association with depression and ADHD group (BD I+II) than bipolar without ADHD (47.4%, n=9 vs. 33.8%, n=26; p=.007). Patients with ADHD reported higher rate of lifetime comorbidity with Substance Use Disorder (SUD) (31,6%, n=6 vs. 18.2%, n=14; p=.21), with Impulse Control Disorder (ICD) (15.8%, n=3 vs. 3.9%, n=3; p=.09) and Generalized Anxiety Disorder (10.5%, n=2 vs. 2.6%, n=2; p=.17). ADHD also scored lower at the GAF, with almost significance difference when compared to no-ADHD samples (47.9±15.8 vs. 56.9 ± 19.2; p=.06). The SDS indicated a significant worse functioning behavior in family adjustment for patients with ADHD (5.3±2.0 vs. 4.8±2.5; p=.01).

Conclusion: Findings suggest that patients with ADHD-BD present a more severe psychopathology and a worse level of overall functioning compared to non-ADHD group. ADHD influences the course, prognosis and especially therapeutic management of BD. Further complicating the clinical picture and management of BD associated to ADHD, the presence of high SUD and ICD rates. Further research is needed to confirm our findings and the therapeutic implications related to BD and ADHD comorbidity

Keywords: Attention Deficit Hyperactivity Disorder (ADHD); Bipolar Disorder (BD); Prevalence; Adulthood.

Bipolar disorder in the frame of dementia (Bipolar VI)

Dimitrios Kontis

Consultant Clinical Psychiatrist, 1st Psychiatric Department, Psychiatric Hospital of Attica, Athens, Greece

Bipolar disorder in the frame of dementia belongs to a wider category of late onset bipolar illness and corresponds to the type VI bipolar disorder in the spectrum concept. The relationship of bipolar disorder with dementia might be explained by five possible mechanisms. First, the symptoms of mixed or agitated depression in elderly patients could be misattributed to dementia (bipolar-type pseudodementia). Second, dementia could increase the risk for manic episodes. Third, dementia could unmask bipolar vulnerability which had remained latent. Fourth, late onset bipolar disorder might be a risk factor for the development of dementia. Finally, medications or other medical conditions affecting brain functioning such as cerebrovascular disease, brain injury or infection commorbid with dementia could trigger bipolar symptoms. The recognition of these mechanisms has important implications. For instance, symptoms of bipolar-type pseudodementia are refractory to antidepressants or acetylcholinesterase inhibitors and have been even shown to worsen after memantine administration. The management of type VI bipolar disorder should commence with the investigation of the underlying mechanisms using neuroimaging and other laboratory examinations. The data on its pharmacological treatment are very limited. Valproate, and atypical antipsychotics appear effective and better tolerated than lithium against acute mania. Lamotrigine, olanzapine-fluoxetine combination and quetiapine are useful treatment options for bipolar depression. If an antidepressant is selected it should be always used in conjunction with a mood stabilizer to avoid mood switching. ECT may help treatment resistant patients. It would be reasonable to continue drugs which were proven effective against the acute symptoms into the maintenance phase, although the evidence supporting this practice is still scarce. Anti-dementia agents could improve dementia-induced mood symptoms, but should be avoided in pseudodementia. The diagnostic validity and the appropriate treatment of type VI bipolar disorder remain to be elucidated by future research.

11.00-11.45

LECTURE

Chairperson: **Ioanna Ierodiakonou-Benou (Greece)**

Genes, temperament, culture: Cultural characteristics of the distribution of affective temperaments

Xenia Gonda

Clinical Psychologist and Pharmacist, Associate Professor, Department of Clinical and Theoretical Mental Health of Semmelweis University, Budapest, Hungary

Affective temperaments may carry distinct evolutionary advantages both on the individual or a group level, so we can expect that in different cultural and national samples the frequency of dominant affective temperaments will show characteristic differences. In a study we investigated various national studies published around world on the TEMPS-A, investigating a large

sample of non-clinical population and compared the relative frequencies of dominant affective temperaments. We found a significant difference in the frequency of affective temperaments among the different national studies in case of the Cyclothymic, Hyperthymic and Irritable temperaments. Furthermore, we found important parallels between the frequency of dominant affective temperaments and cultural dimensions described by Hofstede. The characteristics encompassed by the Depressive temperament show considerable similarities with Hofstede's Individualism-collectivism dimension, while those of the Hyperthymic temperament seem to be similar to Uncertainty avoidance, and the Irritable temperament shows similarities with Hofstede's Power distance. Furthermore, the relative frequency of these dominant temperaments in case of the different national samples paralleled the relative scores of these countries on the corresponding cultural scales. Thus our findings indicate an important relationship between affective temperaments and cultural dimensions, which suggests that these phenomena may be the manifestations of the same genetically determined predispositions in different forms. What's even more interesting and possibly in line with the above phenomena, the frequency of the s allele of the 5-HTTLPR, reported to be associated with affective temperaments, also shows a characteristic geographic distribution difference, with possibly similar cultural consequences. All the above indicate how the genetic make up may be involved in cultural adaptation, possibly through the mediation of the emergence of temperamental traits.

11.45-12.30 **LECTURE**

Chairperson: **Dimitrios Kouvelas (Greece)**

The breakdown of the novelty seeking phenotype: Cognitive and emotional processing associated with the L-DRD4 genotype

Panagiotis Bitsios

Assistant Professor of Psychiatry, Department of Psychiatry and Behavioral Sciences, Faculty of Medicine, University of Crete, Heraklion, Crete, Greece

Since the introduction to the psychiatric literature in 1996, of associations between the dopamine DRD4 exon III repeat region and Novelty Seeking, molecular genetic studies of personality have examined thousands of subjects, assessed by using self-report questionnaires, with erratic success in replication of the first findings for Novelty Seeking (DRD4). However the use of new experimental paradigms including neuro- and psychophysiological, neuropsychological and computer games that go beyond the narrow self-report questionnaire design will enable a deeper understanding of how common genetic polymorphisms modulate human behavior. Given the evidence for association of the DRD4 with the psychological trait of Novelty Seeking in animals and humans in particular, we describe the examination of the Novelty Seeking phenotype in relation to the long-DRD4 variant and how the resulting subgroups differ in terms of cognitive and emotional performance, using translational psychophysiological and neurophysiological methods in a large cohort of healthy subjects. The proposed role of the Novelty Seeking phenotype in human evolution and in disorders of impulsivity is discussed under the light of these findings.



13.00-13.45

LECTURE

Chairperson: **Ioannis Diakogiannis (Greece)**

Intervention in early psychosis

Vasileios Kontaxakis

Professor of Clinical and Social Psychiatry, Athens University, 2nd Psychiatric Department, “Atikon” General Hospital, Athens, Greece

The onset of psychosis, usually in young people, causes considerable difficulties to patients and their families as well as therapeutic problems to clinicians. During the last years, research in schizophrenia has mainly focused on individuals in the earliest stages of illness. Interventions in early psychosis include the pre-psychotic phase of the disease-the so-called “Psychosis prodrome”-as well as the first-episode psychosis. There is evidence that the earlier intervention takes place the more successful the illness outcome. “Psychosis prodrome” is a form of indicated prevention and is currently the earliest possible phase for preventing intervention in psychosis. However, at present, it remains a research focus and the idea of intervening at this stage of illness raises conflicting concerns. One of the main goals in patients with first psychotic episode, is to identify ill individuals as soon as possible after the onset of illness and to apply effective treatment. In most cases admission to the hospital for a short period of time is necessary in making the correct diagnosis. Treatment with atypical antipsychotics with fewer extrapyramidal side-effects will aid patient’s compliance. The starting dose should be very low and should be increased slowly. Although 20% of patients with first psychotic episode do not have another episode the next five years, many authors suggest that all patients should be maintained on antipsychotic medication for at least 1-2 years. Antipsychotic drug treatment should not be considered the only intervention in first episode patients. Psychosocial, psychological and psychoeducational interventions are clearly also important.

13.45-14.30

LECTURE

Chairperson: **Lefteris Lykouras (Greece)**

Dopamine pathways: Illnesses and treatments

John Cookson

Consultant and Honorary Senior Lecturer in Psychiatry at The Royal London Hospital in London, England, UK

The discovery of dopamine as a brain transmitter in the 1960s and its role in Parkinson’s disease represents a pivotal stage in the history of psychiatry. It led to greater understanding of the actions of antipsychotics and other drugs in mania and of the pathophysiology of bipolar disorder.

Four main pathways of dopamine neurones are known: 1.The nigro-striatal path involved in Parkinsonian movement disorders, 2. The meso-limbic path from the brainstem to the N Accumbens, amygdala and frontal cortex, 3. The hypothalamic-pituitary neurones controlling hor-

hormone release (prolactin) and 4. A recently recognised path from the retro-rubral area to the extended amygdala, involved in addictive behaviour.

The role of dopamine can be regarded as signalling “salience” and facilitating the retention (learning) of behaviours or emotions connected with particular experiences. This view extends understanding of the importance of dopamine beyond the control of involuntary movement, and into the realms of psychosis and mood. There has been a shift in recognising that the nigro-striatal pathway may also be important in psychiatric disorders.

Molecular biology has elucidated the variety of subtypes of dopamine receptors, which are targets for drug actions.

Mania may represent a situation of excessive dopamine function in a particular dopamine pathway different from that involved in schizophrenia.

16.00-17.00

LECTURE

Chairperson: **Driss Moussaoui (Morocco)**

Temperament: From TEMPS-A to neural substrates & vulnerability genes for bipolarity and creative accomplishment

Hagop S. Akiskal, Kareen Akiskal

Distinguished Professor of Psychiatry and Director of the International Mood Center at the University of California at San Diego, USA

Director of Research Studies of the Artistic Temperament International Mood Center, Paris and La Jolla, USA

Since Hippocrates defined the melancholic temperament and Aristotle linked it to eminence in the intellectual, political, and artistic domains, there have been many opinions and interpretations, but a relative paucity of hard-nosed research. The difficulty lies in measuring what might be arguably described as the most refined expression of human nature. Recently, the use of rigorous psychometric approaches to temperament coupled with neuroscientific developments have permitted better characterization of what once were intangible concepts. In this presentation, we describe our own research from the Paris study of creative artists and the Memphis study on blues musicians, as well as our international collaborative network with the TEMPS (Temperament Evaluation of Memphis, Paris, Pisa, and San Diego) instrument, in presenting an interim data-driven report of the author’s most current thinking of ways in which vulnerability genes for bipolarity, temperament, neural substrates, and creative accomplishments and eminence are related.

17.00-17.30

LECTUREChairperson: **Apostolos Iacovides (Greece)****Bridging the gap between developed and developing countries in Psychiatry: The FAST programme****Driss Moussaoui**

Professor of Psychiatry and Psychological Medicine and Chairman of the Ibn Rushd University Psychiatric Centre in Casablanca, Morocco

More than 80% of the world population has no access to psychiatric care in general and to medicines in particular. The gap is huge and needs to be addressed urgently.

Sanofi started 4 years ago a public-private partnership called FAST (Fighting Against Stigma). It includes ministries of health in low and middle income countries, the World Association for Social Psychiatry, the World Psychiatric Association and a number of national NGOs.

The five axes of the work plan constitute a comprehensive package:

- National campaign against stigma concerning mental disorders at large, and schizophrenia in particular;
- Creation and help given to associations of families of mental patients;
- Psycho-education of patients and families
- Training of G.P.s and nurses about diagnosis and treatment of mental patients;
- Distribution by the Ministry of Health of affordable medications to needy patients.

This FAST programme started in Mauritania and in Morocco with pilot projects, and then extended to the whole country in Mauritania. Guatemala ministry of health signed an agreement. Sudan's MoH will do the same soon and about 10 different countries are in the pipe (Armenia, Paraguay, ...). The preliminary results of this programme will be presented.

17.30-19.00

SYMPOSIUM**THE BURDEN OF CYCLOTHYMIA**Chairpersons: **Athanasios Koukopoulos (Italy),
Zoltan Rihmer (Hungary)****The role of suicidality and suicide****Zoltan Rihmer**

Professor of Psychiatry, Department of Psychiatry and Psychotherapy and Scientific Director, Department of Clinical and Theoretical Mental Health, Semmelweis University, Faculty of Medicine, Budapest, Hungary

Although untreated major mood disorders carry the highest risk of suicidal behaviour the majority of these patients never complete (and up to 50% of them never attempt) suicide. Therefore risk factors, other than major mood disorder itself, such as special clinical characteristics as well as some personality, familial and psychosocial risk factors, should also play a significant contributory role.

Recent studies have demonstrated a strong relationship between some specific types of affective temperament and suicidal behaviour. In patients with unipolar or bipolar major depressive episode, cyclothymic temperament was significantly related to lifetime and current suicidal attempts and ideation both in adult and paediatric samples (Akiskal et al, 2003; Kochman et al, 2005; Azorin et al, 2009). Other studies also have shown that depressive, anxious, irritable and particularly cyclothymic affective temperaments were markedly over-represented and hyperthymic temperament was under-represented among suicide attempters (Pompili et al, 2008; Rihmer et al, 2009a), and suicidal ideators (Vázquez et al, 2010), the majority of whom have had current major depressive episode. Recently we also found that suicide attempters with history of childhood physical and/or sexual abuse scored higher on all but hyperthymic subscales than those without such history, but the difference was significant only on cyclothymic and irritable subscales (Rihmer, 2009).

Although several prior studies have shown that impulsivity is a relevant dimension of depression regarding suicidal behaviour most recent studies showed that even modest intradepressive hypomanic/cyclothymic symptoms were associated with greater impulsivity (Swann et al, 2007) indicating that both impulsivity and suicidality are linked to bipolar (mixed) nature of depression.

Relationships impulsivity in anxious patients

Giulio Perugi

Professor of Clinical Psychiatry and Psychopharmacotherapy, University of Pisa, Italy

The relationship between anxiety and impulsivity is controversial and not well explored. We compared impulsivity, measured by different rating tools, in patients with anxiety disorders vs. healthy controls. In the same sample we also explored the influence of co-morbid soft bipolar spectrum disorders, such as cyclothymia, on the relationship between anxiety disorders and impulsivity.

Method: A sample including 92 subjects with anxiety disorder(s) and 45 control subjects matched for demographic, educational and work characteristics underwent a diagnostic evaluation by the Mini Neuropsychiatric Interview (M.I.N.I.); a symptomatological evaluation by the Bach-Raepfelsen Depression and Mania Scale (BRDMS), the State-Trait Anxiety Inventory (STAI), the Hypomania Check List (HCL-32) and the Clinical Global Impression (CGI); a temperamental and personological evaluation by the Questionnaire for the Affective and Anxious Temperament Evaluation of Memphis, Pisa, Paris and San Diego-Modified (TEMPS-M), the Separation Anxiety Sensitivity Index (SASI), the Interpersonal Sensitivity Symptoms Inventory (ISSI); and, finally, a psychometric and a neuro-cognitive evaluation of impulsivity by the Barratt Impulsiveness Scale (BIS) and the Immediate and Delayed Memory Task (IMT\DMT). The initial sample of patients with anxiety disorders was then subdivided into two subgroups depending on the presence of comorbid cyclothymia. We compared symptomatological, temperamental, personological and impulsivity measures in Cyclo+, Cyclo- and controls.

Results: The comparison between Cyclo+, Cyclo- and controls showed that Cyclo+ are the most impulsive subjects in all the investigated measures and are characterized by greatest symptomatological impairment, highest scores in temperamental scales, and highest levels of interpersonal sensitivity and separation anxiety. Cyclo- subjects resulted to be more impulsive com-

pared to controls concerning the retrospective trait measures, but not in the neuro-cognitive test.

Conclusion: In our patients with anxiety disorders, without lifetime comorbidity with major mood episodes, trait and state impulsivity resulted to be greater than in controls. In particular impulsivity was highest in patients with both anxiety disorder and cyclothymia. In anxious-cyclothymic patients also separation anxiety and interpersonal sensitivity were more severe than in anxious patients without cyclothymia and controls. Our data suggest that impulsivity rather than being directly related to the presence of the anxiety disorder, can be attributed to comorbidity with cyclothymia.

The role of hypomanic symptoms

Athanasios Koukopoulos

Director of the Centro Lucio Bini, Rome, Italy

The hypomanic symptoms of Cyclothymia are certainly much milder than the manic symptoms of mania yet their impact on the life of the patient is often more severe and longer-lasting.

The most frequent consequences regard the romantic and marital life of the patient, his economic activities, his work and his relations to other people in general.

In a manic syndrome the behavior of the patient is so clearly abnormal that everybody recognizes its pathological nature and reacts accordingly. The patient is soon brought under medical care and the manic episode comes to an end. This limits in time the damage caused by his behavior.

On the contrary the hypomanic patient takes decisions without anyone realizing that he is in an abnormal state; nobody tries to stop him, nobody thinks he needs treatment. His decisions are taken seriously. For instance the irritability of the manic patient is expressed in an outrageous way and people understand its pathological nature. On the contrary the irritability of the cyclothymic is taken seriously and solid relationships come to an end. Falling in love at first sight has no future with manic patients while with cyclothymics it may change their lives.

The difference between manic and hypomanic symptoms becomes dramatically clear in the case of men of political power, especially dictators. Probably no one thought Mussolini and Hitler needed psychiatric treatment.

The same analogy is true for the positive aspects of the psychic excitement. Manic patients may have, at the beginning of the episode, good ideas and projects. As the excitement progresses they are lost in the confusion of mania. On the contrary many creative people were cyclothymics.

The role of addiction

Andreas Erfurth

Head of Clinical Psychopharmacology and the Bipolar Spectrum Disorders Program, Division of General Psychiatry, Medical University of Vienna, Austria

In the last years a relaunch of the concept of temperament as basis of affective disorders has taken place (1,2). The role of the cyclothymic temperament as particular specifier of the course of bipolar disease has been shown and specific therapeutic approaches for cyclothymia

have been developed. Our work has examined the role of temperament as measured by the briefTEMPS-M 3,4 in addiction, namely alcoholism 5 and opiate addiction.

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20.00-21.30 **SATELLITE SYMPOSIUM**
REALITIES OF TREATING BIPOLAR MANIA PATIENTS
Chairperson: **Konstantinos N. Fountoulakis**

The symposium is sponsored by Bristol-Myers Squibb

Efficacy in acute mania without sedation. Is it achievable?

Heinz Grunze

Professor of Psychiatry, Newcastle University, Newcastle upon Tyne, UK

Recent guideline updates increasingly acknowledge the role of atypical antipsychotics, both in the treatment of acute mania and as maintenance therapy. The World Federation of Societies of Biological Sciences (WFSBP) guidelines (Grunze et al 2009) were updated in 2009 in order to review all the available evidence and publish a consensus that would be globally applicable. They granted aripiprazole an A1 rating for use in acute mania - the highest grade recommendation for both efficacy and overall benefit/risk ratio - based on clinical trial evidence. Compared with agents such as clozapine, olanzapine and quetiapine, aripiprazole has a relatively low affinity for H1 (histamine) receptors, which is the likely reason for its lower potential to cause sedation and weight gain. However, the low incidence of sedation seen with aripiprazole treatment may reduce its appeal in ordinary practice where sedation is often considered as crucial for antimanic effectiveness. Recent evidence, however, suggests that mania should rather be understood as a state of diminished vigilance (Schoenknecht et al 2010) and excessive sedation may be contra productive both in the short term as well as in the recovery phase (Goodwin et al 2011). Symptoms such as severe psychomotor agitation should be better controlled through the administration of intramuscular (IM) aripiprazole or by prescribing an adequate dose of an adjunctive agent for short term use, such as a benzodiazepine, an antihistamine or a "sedating" antipsychotic.

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2. Grunze H, Vieta E, Goodwin GM, Bowden C, Licht RW, Moller HJ, Kasper S (2009) The World Federation of Societies of Biological Psychiatry (WFSBP) Guidelines for the Biological Treat-



ment of Bipolar Disorders: Update 2009 on the Treatment of Acute Mania. *World J Biol Psychiatry* 10:85-116.

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Evidence based treatment of bipolar disorder

George Papageorgiou

Psychiatrist, NHS director, Department of Psychiatry, Evangelismos Hospital, Athens, Greece

Bipolar I disorder is characterized by incomplete remission, not sustained functional recovery and high rates of recurrence, especially when residual symptoms exist.

Studies about maintenance treatment haven't been homogeneous. Apart from a screening phase, they include a variable length stabilisation period and a longer term assessment of recurrence phase. The stabilization period proved to be the most important. The longer the patient is remaining in the stabilisation period, the better the prospect for a successful maintenance treatment. This is evident through data concerning the use of various second generation antipsychotics, alone or as an adjunctive treatment with mood stabilizers in the maintenance treatment of the disorder.

Reference

1. Gitlin et al *Current Medical Research and Opinion* 2010;26:1835-42

Sunday, November 27th 2011

“Alexandros” Hall

09.00-09.30 **LECTURE**
Chairperson: **Michael Sotiriou (Greece)**

Meta-analysis demystified: A useful but potentially dangerous tool for evidence - based Psychiatry

Georgia Salanti

Assistant Professor in Epidemiology, University of Ioannina School of Medicine, Ioannina, Greece

Systematic reviews of published clinical trials that address the same question are an established method to assist clinicians and patients with making informed decisions. Meta-analysis, the quantitative component of a systematic review, is the numerical synthesis of the individual study results and can provide a single answer to a clinical question if carried out properly. This talk focuses on explaining the basic principles of meta-analysis, discussing its advantages and limitations and stretching the conditions under which synthesis of study-specific results yields reliable answers. Emphasis is given in the conceptual and methodological consideration rather than statistical technicalities. Specific examples of published meta-analyses in the field of psychiatry will be discussed and particular attentions will be given to the issues of heterogeneity, publication bias and the role of study quality.

09.30-11.00 **SYMPOSIUM**
AROLEFORBRAIN DERIVED NEUROTROPHIC FACTOR IN NEUROPSYCHIATRIC DISORDERS: ETIOLOGICAL ASPECTS AND THERAPEUTIC PERSPECTIVES
Chairpersons: **Sonia Ruiz de Azúa Garcia (Spain),
Maria-Paz Viveros (Spain)**

The neurotrophin BDNF: From depression susceptibility to treatment response

Francesca Calabrese

Research Assistant, Center of Neuropharmacology, Department of Pharmacological Sciences, University of Milan, Milan, Italy

Depression is a complex disorder characterized by a disruption of brain function and altered expression of proteins important for neuronal resilience. One of these molecules is the neurotrophin Brain-Derived Neurotrophic Factor (BDNF), a marker of neuronal plasticity that has been associated with mood disorders. Loss of BDNF in selected brain regions is thought to contribute to the pathophysiology of depression, and pharmacological treatments can restore normal brain plasticity by modulating the expression and function of the neurotrophin. However, since the concept of neuronal plasticity implies that adaptive changes are set in motion in response to ‘external’ stimuli, it is expected that antidepressants should not only improve compromised neuronal plasticity by affecting the expression of key proteins, but also modulate the responsiveness of these systems under challenging conditions. To this regard, we have

demonstrated that chronic treatment with the antidepressant duloxetine not only increases the expression of selected BDNF transcripts in rat hippocampus, but can also affect rapid changes produced by acute swim stress at transcriptional as well as translational levels.

We have recently demonstrated that genetic susceptibility to depression is also associated with impaired expression of BDNF. Indeed using serotonin transporter (SERT) mutant rats, which show anxiety and depression related behaviour, we found that BDNF expression was significantly reduced in hippocampus and prefrontal cortex, an effect that was due to alterations in the levels of specific BDNF transcripts. Interestingly, chronic duloxetine treatment normalized the expression of the neurotrophin in SERT mutants through the regulation of specific isoforms, suggesting that mutant rats retain the ability to modulate BDNF expression following duloxetine treatment. The reduced expression of key transcripts, such as exon IV, is sustained by epigenetic mechanisms and it is associated with reduced expression of the transcription factor Npas4, leading to significant impairment of the GABAergic system, which lies downstream from Npas4 and BDNF.

These alterations, which may also be normalized by pharmacological intervention, may contribute to the anxious and depressive phenotype associated with inherited SERT down-regulation and may help to understand the role of the neurotrophin in mood disorders.

Reactivation of developmental plasticity by antidepressant drugs and neurotrophins

Dimos Dimellis

Consultant at the rank of Lieutenant Colonel, Psychiatric department, 424 General Military Hospital, Thessaloniki, Greece

Major Depression (MD) is associated with reduced volumes of the hippocampus and prefrontal cortex (PFC), both of which are indirect signs of an ongoing degeneration. Recent observations suggest, that at least partially, successful antidepressant treatment can reverse these neurodegenerative processes. During the last decade the neurotrophic hypothesis for depressive states emerged. This hypothesis quotes that reduced levels of neurotrophins and especially of the brain-derived neurotrophic factor (BDNF) contributes to this observed hippocampal atrophy. The later comes with the established importance of the neuronal plasticity both in the pathogenesis and the recovery from depression. Of course the interaction between mood states and BDNF and its receptors (TrkB) is neither simple nor linear. For example, reduced BDNF/TrkB signaling levels do not lead directly to either depression or anxiety but rather to a blunted response to appropriate (antidepressant) treatment. Thus it seems that although the role of BDNF is unclear in the pathophysiology of depression, there is clear evidence that BDNF signaling (through TrkB receptors) is implicated in the mechanism of action of antidepressant drugs. A more striking finding is that antidepressants activate (phosphorylate) TrkB receptors, especially, in experimental animals with reduced BDNF expression. Additionally there is evidence that both antidepressants and ECT increase neurogenesis in the (hippocampal) dentate gyrus and synaptogenesis, also, elsewhere, while increased BDNF/TrkB signaling supports the survival of newborn neurons. Moreover, data suggest that antidepressant treatment (through an increased BDNF expression) can reactivate neuronal plasticity in different brain areas and by that can lead to the functional reorganization of neural networks. Although the clinical significance of these findings, regarding depression, is unclear, they may explain the fact that antidepressant drugs are not only useful for the treatment of MD but also for a variety of different neuropsychiatric conditions.

The new therapeutic strategies in the first psychotic episode: The roll of the BDNF

Sonia Ruiz de Azúa Garcia

Psychiatric Department of Santiago Apostol Hospital Research Unit, Spain

Brain-derived neurotrophic factor (BDNF), the most abundant neurotrophin in the brain, promotes growth and maintenance of connections, serves as a neurotransmitter modulator, and participates in plasticity mechanisms such as long-term potentiation and learning. The cognition of the patients who suffer a first episode of psychotic (FEP) is altered. When the patients are in the acute phase of the illness, with psychotic symptoms the BDNF levels are altered and, in the follow-up, with the pharmacological treatment these levels recover. In this study, we try to analyze the relation between the BDNF, symptoms and cognition in psychotic disorder. On the other hand, we would like to clarify the effects of the pharmacological and psychotherapeutic therapies in the BDNF levels.

Plasma BDNF levels have a significant negative correlation with positive symptoms at psychosis onset and during the first six months of follow-up after olanzapine treatment. These results raise the question of whether plasma BDNF levels may be used a possible marker beyond the acute clinical state. The patients with a low BDNF levels had worse performance in memory, abstract verbal reasoning, learning capacity and motor and processing speed. Also, we found that the patients with lower BDNF plasma levels had worse social activity and functioning. However, we didn't find these results in healthy controls. A possible explanation for this difference is that healthy volunteers with lower BDNF levels may have sufficient cognitive reserve to compensate for possible deficits associated with lower BDNF.

These results can give us some tracks of the potential role of BDNF in the symptoms, cognition and prognosis associated with onset of psychosis, and the potential value of treatments which increase BDNF levels. At this moment we are researching about the possible therapeutic effects of the psychological therapies on BDNF and the association with the symptomatology.

Blood BDNF concentrations reflect brain-tissue BDNF levels across species

Anders Bue Klein

Centre for Integrated Molecular Brain Imaging (CIMBI), Neurobiology Research Unit, Copenhagen University Hospital, Copenhagen, Denmark

Brain-derived neurotrophic factor (BDNF) is involved in synaptic plasticity, neuronal differentiation and survival of neurons. Observations of decreased serum BDNF levels in patients with neuropsychiatric disorders have highlighted the potential of BDNF as a biomarker, but so far there have been no studies directly comparing blood BDNF levels to brain BDNF levels in different species. We examined blood, serum, plasma and brain-tissue BDNF levels in three different mammalian species: rat, pig, and mouse, using an ELISA method. As a control, we included an analysis of blood and brain tissue from conditional BDNF knockout mice and their wild-type littermates. Whereas BDNF could readily be measured in rat blood, plasma and brain tissue, it was undetectable in mouse blood. In pigs, whole-blood levels of BDNF could not be measured with a commercially available ELISA kit, but pig plasma BDNF levels (mean 994 ± 186 pg/ml) were comparable to previously reported values in humans. We demonstrated positive correlations

between whole-blood BDNF levels and hippocampal BDNF levels in rats ($r^2=0.44$, $p=0.025$) and between plasma BDNF and hippocampal BDNF in pigs ($r^2=0.41$, $p=0.025$). Moreover, we found a significant positive correlation between frontal cortex and hippocampal BDNF levels in mice ($r^2=0.81$, $p=0.0139$). Our data support the view that measures of blood and plasma BDNF levels reflect brain-tissue BDNF levels.

11.00-12.30

SYMPOSIUM

THE FUTURE OF ALZHEIMER DISEASE RESEARCH: FROM GROUP DIFFERENCES TO INDIVIDUAL PREDICTION

Chairpersons: **Constantin Bouras (Switzerland),
Panteleimon Giannakopoulos (Switzerland)**

The endless debate of amyloid/tau-related causality: Lessons from neuropathology

Constantin Bouras

Professor of Functional Neuropathology, Department of Psychiatry, Division of Neuropsychiatry Geneva University Hospitals, Geneva, Switzerland

The two core pathological hallmarks of Alzheimer's disease (AD) are insoluble amyloid β ($A\beta$) deposits referred to as senile plaques (SPs) and neurofibrillary tangles (NFTs) composed of abnormally phosphorylated tau protein aggregates. The mechanism of SPs and NFTs formation and their role in the pathophysiology of AD is an area of great controversy. According to the amyloid cascade hypothesis, accumulation of insoluble $A\beta$ in the brain is the primary event driving AD pathogenesis. Traditionally, the increase of soluble $A\beta$ production was attributed to the well-described alterations of amyloid precursor protein (APP) processing into $A\beta$ peptides ($A\beta_{1-40}$ and $A\beta_{1-42}$), influenced by the patterns of proteolytic cleavage by α , β , and γ secretases. The disruption of the imbalance between the total load $A\beta$ production and clearance is followed by the progressive aggregation of SPs in extracellular space that would trigger synaptic dysfunction and neuronal cell death. Recent observations focused on $A\beta$ oligomer toxicity postulating that SPs may represent the brain effort to control the deleterious effect of soluble $A\beta$ by-products. In spite of several hypotheses suggesting that misfolded $A\beta$ species initiate cellular events that result in later tau aggregation, the pathways linking $A\beta$ and tau remain poorly understood.

The tau-related cascade in AD pathogenesis has been also intensively investigated in the last few decades. Fibrils composed by hyper-phosphorylated tau accumulate within neuron cell bodies and dendrites, forming pairing-helical filaments (PHFs) that coalesce into NFTs. Aberrant tau hyper-phosphorylation seems to be an important event in reducing affinity of tau for microtubules, leading to microtubule non-assembly, cytoskeleton instability and transport impairment. In contrast to $A\beta$ involvement in AD, tau-containing NFTs were initially interpreted as markers of dying neurons without a causal influence in disease onset. This viewpoint began to change progressively in late 90s when it was discovered that inherited forms of frontotemporal dementia with Parkinsonism linked to chromosome 17 (FTDP-17) resulted from mutations within the tau gene. AD-like NFTs, in absence of SPs, are also seen in Guam parkinsonism-dementia complex, Pick's disease, corticobasal degeneration, progressive supranuclear palsy and dementia pugilistica. These observations provided the first evidence that alterations of tau, in absence of

amyloid pathology, is sufficient to directly result in dementia supporting the idea that even if tau accumulation is not the *primum movens* of AD, it could be the most critical determinant of cognitive decline in old age.

Individual vulnerability to AD process: Moving from mild cognitive impairment to healthy controls

Panteleimon Giannakopoulos

Professor of Psychiatry and Full Professor of Old Age Psychiatry at the University of Lausanne, Switzerland

The amyloid cascade supporters suggest that soluble A β accumulation is the “*primum movens*” of AD acting predominantly at the synaptic level. Negative data of immunization may simply reflect that his intervention comes too late. Alternatively and as the tau supporters affirm, the paucity of cognitive results in preliminary immunization trials may signify that tau pathology is temporally closer to the neurodegenerative events that result in dementia than A β aggregates. Recent data demonstrate that an unilateral focus to the amyloid hypothesis may help us to understand the “*primum movens*” of the disease but would not provide sufficient therapeutic benefits. Although difficult and time-consuming, invest on tau-related strategies is now mandatory. The recent focus on soluble forms of toxicity that may be active long before the formation of brain aggregates implies, however, that A β - or tau-focused curative strategies would be effective only in very early and possibly preclinical stages of the disease when biological compromise is still avoidable. In last years, AD research provided two main categories of biomarkers. The first concerned markers with good diagnostic specificity that make it possible to differentiate individuals with preclinical and probable AD from individuals with other forms of dementia. The second groups structural and functional neuroimaging as well as biochemical markers that change with disease progression and may even predict the evolution from MCI cases to clinically overt AD. Very recent studies in routine clinical settings suggested that cerebrospinal fluid (CSF) markers (such as phospho tau/A β 42 ratio) and hippocampal (or entorhinal cortex) volumes at baseline might predict the initial phases of cognitive decline. Perhaps the most important role biomarkers are those that could allow for detecting the individual signature of biological vulnerability for AD. These individuals who are cognitively normal, and yet have evidence of AD pathology (i.e. preclinical AD) are the most likely to take profit from future disease modifying/prevention therapies. The thoughtful use of such biomarkers at an individual level will be a major but ethically problematic challenge of AD research in the near future. This lecture will addresses critically the use of biomarkers in clinical settings and comment on their pertinence in the identification of ultra high risk individuals among healthy controls.

Volumetric changes and white matter damage in mild cognitive impairment: Prediction or conclusion?

Aikaterini Xekardaki

Resident in Psychiatry in the University Hospital of Geneva, Switzerland

Mild cognitive impairment (MCI) is characterized by memory complaints reported by the patient and preserved autonomy in daily life activities. Patients with amnesic MCI are thought to present prodromal lesions of Alzheimer's disease and convert to Alzheimer over the years. The progress of neuroimaging over the last decades allowed us to identify prodromal lesions present in MCI subjects. Voxel-wise based morphometry (VBM) and diffusion tensor imaging (DTI) have been used to provide with potential biomarkers for early Alzheimer's disease detection. Diffusion tensor imaging is a new technique that evaluates in vivo white matter integrity through diffusion. Grey matter abnormalities including grey matter cortical and hippocampal atrophy were identified through VBM.

DTI studies in MCI have indicated white matter lesions in the cingulum, frontal and temporal lobes, as well as the parahippocampal region. We performed a cross-sectional MRI comparison between healthy elderly subjects and MCI cases recruited in Geneva during the last year. Preliminary results show grey matter atrophy of the thalamus and white matter fractional anisotropy (FA) decrease of the corpus callosum in MCI, consistent with results from other studies. Brain lesions in MCI are thought to begin a decade before memory complaints, arising doubts about the utility of MCI structural biomarkers for early detection of AD. On the other hand, MCI subjects are able to activate alternative cortical circuits in order to compensate functional deficits. In addition, not all MCI subjects convert to AD, implying the activation of compensatory brain mechanisms to counteract cognitive decline. These observations suggest that metabolic differences observed in MCI and controls may be due to compensatory mechanisms. The need for new concepts in order to define earlier stages of the dementing process than MCI and the estimation of structural-functional imaging parameters are imperative for future direction in prevention, early detection and therapy in Alzheimer's disease.

Early onset Alzheimer's disease: Clinical, imaging and biological features

Socratis Papageorgiou

Assistant Professor of Neurology, Department of Neurology, University of Athens Medical School, Athens, Greece

Although Alois Alzheimer described the disease pathology in the brain of a middle aged woman, the disease that took his name accounts in recent times for senile and pre-senile cases, on the basis of the similarity of the pathologic changes in the brain. However, several clinical, imaging and biological features studied recently, characterize the cases of early onset AD (EOAD).

By contrast to the late onset cases of AD (LOAD), in which episodic amnesia dominates the clinical picture, EOAD presents often with non-amnesic deficits such as pronounced executive, language, or "posterior" cortical features, namely visuo-spatial deficits or apraxia. Clinical entities as "Posterior Cortical Atrophy" and "Logopenic Progressive Aphasia", that have classically

an underlying AD pathology, are found mainly in early onset cases. Behavioural disturbances are also much more frequently encountered in the initial stages of EOAD and patients often take psychiatric diagnoses at the initial stages of their disease. In terms of neurological signs, early appearance of myoclonus and pyramidal signs that characterize often the autosomal dominant familial forms are not rarely found, as these forms are much more common in EOAD. Imaging studies have demonstrated that in EOAD there is more parietal atrophy and less hippocampal atrophy and less vascular disease pathology than in LOAD cases. Also, a lower proportion of APOE-ε4 alleles characterize the EOAD cases. Finally, a number of studies have now demonstrated that -unexpectedly- EOAD cases have a longer time from first symptoms to diagnosis. The latter could be possibly explained (at least in part) by the frequent atypical presentations in EOAD.

13.00-14.30 **SYMPOSIUM**
WORLD AND TRANSCULTURAL PERSPECTIVES IN PSYCHIATRY AND MENTAL HEALTH
Chairperson: **Konstantinos N. Fountoulakis (Greece)**

Attitudes towards psychopharmacological treatment: A transcultural perspective

Melina Siamouli

Research Associate, 3rd Department of Psychiatry, Aristotle University of Thessaloniki, Greece

In an era of globalization, the effect of culture is a major implication in the diagnosis and treatment of psychiatric disorders. Psychopharmacologic treatment in particular seems a rather controversial issue in different cultural settings. Although several beliefs about psychotropic medication are common worldwide, certain beliefs are associated to certain ethnic or cultural groups, affecting not only the patients' adherence to medication, but also the overall provision of mental health services. Unlike western societies, where the use of psychotropic medication is more acceptable, other societies tend to engage other treatment modalities that stem from their culture-bound perception of mental illness. The role of traditional healers, spiritists, religion and family is of major importance. Moreover, as far as mental health professionals are concerned, the under-recognition of biological differences in different ethnic groups, the misconception of a minority's unique beliefs and practices, prejudice and the trend to apply westernized psychiatry worldwide, have also probably contributed to the negative attitude of non-westernized populations towards psychotropic medication. The development of cultural competent psychiatric services and the promotion of literacy about the causes and treatment of psychiatric disorders is a necessity.

Mental health of ethnic elders: A largely unexplored area of research

Dimitrios Kontis

Consultant Clinical Psychiatrist, 1st Psychiatric Department, Psychiatric Hospital of Attica, Athens, Greece

Within the growing group of elders, migrant elders comprise a vulnerable subgroup in the contemporary world. For instance, the national countries of the 1950s in Europe have been transformed into migration societies. In these societies, the number of ethnic elders has increased during the last decades and is expected to increase more rapidly over the next decades. The growing number of ethnic elders poses increasing challenges with respect to their health and, in particular, mental health needs. However, the relative research has been rather scarce. Studies have reported elevated rates of depression in elderly migrants in the UK, Netherlands, Belgium and Sweden, but there have also been contradictory findings from Europe and America. These studies are characterized by a great variability possibly due to cultural differences between groups of migrants. There are few studies assessing the prevalence of dementia in ethnic elders which have revealed higher dementia rates compared with those found in their country of origin. Uncontrolled hypertension and diabetes might account for this finding. Although it has been well established that psychotic disorders are more common in young immigrants, psychosis among ethnic elders is yet understudied. The existing studies have also pointed out problematic areas in mental health services for ethnic elders which include limited access to these services, barriers to diagnosis due to language difficulties and different clinical presentations of psychiatric disorders in this population, doubtful validity of screening instruments and reduced treatment acceptability. The mental health needs of the rapidly growing population of elderly migrants offer fertile ground for future research aiming at their treatment and prevention.

Longitudinal studies of cognition in first episode psychosis: A systematic review of the literature in a world perspective

Vasilios Bozikas

Assistant Professor at Aristotle University of Thessaloniki, 1st Department of Psychiatry, General "Papageorgiou" Hospital, Thessaloniki, Greece

Although cognitive deficits are recognized as a core feature in schizophrenia, their evolution over the course of the illness is still debated. Longitudinal studies of cognition in patients after a first episode of psychosis (FEP) provide extremely useful information, in that they include an adequate and realistic baseline measure of cognitive performance, while at the same time minimizing the effect of confounding variables associated with chronicity. Overall, the neuropsychological deficits that are present following a first episode of psychosis appeared to remain stable over time for periods of up to ten years, the only possible exception being verbal memory deficits, where there is some evidence of further deterioration over the long term. However, further studies are needed to confirm this conclusion, especially in the (somewhat inconsistently defined) domain of executive function. Improvements in psychopathology appear to positively influence the course of cognitive deficits, although the effects of antipsychotic medication are not as clear.

Mental health care in a multicultural environment

Stamatia Magiria

Psychiatrist, Phd student, School of Medicine, Aristotle University of Thessaloniki, Greece

When living in a trans-cultural environment, exchange of data between countries is an important moving force towards better mental health. It is important also for developing accessible, affordable and effective mental health systems. Unfortunately, health information systems in most countries are weak in the field of mental health. And comparability of data is low. Special international data collection exercises, such as the World Health Organization (WHO) Atlas Project and the WHO Baseline Project have provided valuable insights in the state of mental health systems in countries, but such single-standing data collections are not sustainable solutions. Improvements in routine data collection are urgently needed, since we all live in a trans-cultural environment.

Most published data on mental health care is originated from the United States, where insurance payments for mental health traditionally been much less generous than benefits from other health care services. Given the difference in the structure of health care funding in Europe, it is clearly important to obtain similar information in different European countries. Many parts of government have a responsibility for mental health care, with considerable variations across countries. It is not surprising that mental health systems are diverse in governance, human resources, funding systems and service delivery. The responsibilities of the public and private sector differ, and the private sector is generally expanded.

The challenge will be to translate good local practice into national policies and practice, supported by adequate resources.



POSTERS

P001

The meaning of informed consent for mental health status after pregnancy termination events

Danielius Serapinas, Jonas Juskevicius

Department of Biolaw, Mykolas Romeris University, Vilnius, Lithuania

Background: Miscarriage and induced abortion are life events that can potentially cause mental distress. The objective of this study was to determine whether there are any differences in the patterns of psychological symptoms after these two events and to point the importance of informed consent.

Materials and methods: 20 women who experienced miscarriages and 20 women who underwent induced abortions were interviewed in Vilnius out-patients policlinics. All subjects completed the questionnaires. Data were assessed by Mann-Whitney U test.

Results: Women who had pregnancy termination had more mental distress than women who experienced a miscarriage (guilty 16 vs 10; anxiety 17 vs 8; suicidal minds 7 vs 3; episodes of crying 15 vs 10; anger 13 vs 2; community avoidance 12 vs 4; avoidance of sex 13 vs 2; $p < 0.05$). However question if religiosity become more important in their life after event positively answered only woman after induced abortion ($n=6$). Observed differences may result from the different intention of the two pregnancy failure events.

Conclusions: Women who had undergone an abortion exhibited higher frequency of psychological symptoms than after miscarriage. So we may consider that it is necessary still before induced abortion procedure to inform the couples about an increasing possibility of mental distress.

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P002

Anxiety of hospitalization

Anila Hashorva, Pasho Maksudi, Elga Spaho, Valbona Alikaj

Psychiatrist Department, University Hospital "Mother Teresa", Tirana Albania

Background: The fact remains that anxiety is a frequent concomitant of somatic illness or that it may masquerade as somatic disorder. Studies in different countries and clinics have shown that most patients accompany their disease with strong emotions especially when they go to the doctor. Potentially of hospitalization, is a strong reason to justify higher level of anxiety.



Materials and methods: Were interview 100 patients with different diagnosis that have received service at primary care and 100 people without any diagnosis as a group control (May-October 2009). The Hospital Anxiety and Depression Scale (HADS) was used like a clinical instrument to quantify anxiety severity

Results: From the patients involved 23% of them had a high anxiety level (potential cause for concern). 31% moderate anxiety. Only 6% in group control had a high anxiety level and 9% cases in the limits. This considerable difference shown that hospitalization strongly influences the development of anxiety. The level of anxiety is influenced by the type of the disease. The patients with oncologic and cardiologic diagnosis had a higher level of anxiety than others.

There's a close connection between the anxiety and age, but it is not related with the sex, marital status and academic level of the person.

Conclusions: The opportunity of hospitalization is a strong reason to justify the high level of anxiety, tested by HADS. The physician will be helped and will make his job easier if he knows the anxiety of hospitalization level in patients, that why HADS requires a validation study in the Albanian version.

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P003

Biofeedback training for musical performance ability enhancement

Olga Bazanova¹, Anna Kondratenko², Oleg Kondratenko², Eugenia Mernaya³

¹Department of Biofeedback technology, Institute of molecular biology and biophysics SO RAMN, Novosibirsk, Russia

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Background: The multiple risk factors for injuries to instrumental musicians include those due to the requisites of playing the instrument, such as extra muscle tension, and others that relate to unique psycho- emotional attributes of the individual musician. These interacted risk factors associated with alpha EEG activity failure and extra muscle tension (Bazanova et al 2003). So special simultaneous alpha stimulating and EMG decreasing biofeedback training (Alpha/EMG-BFT) was developed for musical performance(MP) ability enhancement

Materials and methods: With the aim to determine Alpha/EMG-BFT effects MP rating, STAI and Motivation competence Inventory were applied before and after Alpha/EMG-BFT in 51 musical students. The participants were suggested that the aim of the training was "to attain a state at which achieving high quality MP would be complimented with a feeling of easiness and comfort". 21 students (experimental group) completed 18-20 Alpha/EMG-BFT sessions while the control group had usual musical practice. Groups were balanced in age, gender, musical spe-

cialty and length of MP experience. Those participants who demonstrated increasing alpha and decreasing EMG after Alpha/EMG-BFT were called "Responders", others - "Nonresponders"

Results: There were 15 Responders in experimental and 8 - in control group. After Alpha/EMG-BFT "Responders" demonstrated increase in the training efficiency, MP and self-actualization scores, while anxiety and EMG decreased both in experimental and control groups. Their alpha power, activation, alpha peak frequency and band width increased too. In baseline pre-training condition alpha frequency and MP score was higher in Non responders, than Responders of experimental group, while opposite lower in Non responders than Responders of control group.

Conclusions: Alpha/EMG Biofeedback is capable to enhance musical performance and self-regulation ability just in those students who had MP impairment

Acknowledgements:

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P004

Effects of demographic variables on the Peabody Picture Vocabulary Test-Revised in Greek

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Background: The goal of the present study was to explore the psychometric characteristics of the Peabody Picture Vocabulary Test-Revised (PPVT-R) adapted in Greek and to examine effects of demographic variables on performance.

Materials and methods: The word stimuli in the original version of the PPVT-R were initially translated into Greek. Based on a pilot data set, 2 items were excluded, the target stimulus was altered in 44 plates, and the order of presentation was changed based on relative rank of item difficulty. The final version consisted of 173/175 items, and was administered to 512 Greek participants aged 50-95 years.

Results: Cronbach's alpha was .95 and the stability index for the total score was satisfactory (test-retest $r = .88$). The partial correlation coefficient between age and PPVT-R scores, independent of educational level, was $-.28$. The partial correlation coefficient between educational level and PPVT-R scores, independent of age, was $.55$. ANOVAs with educational level, age, and gender as between-participants factors revealed a significant main effect of gender [$F(2, 444) = 14.47, p < .0001, \eta^2 = .03$]. A significant age by educational level interaction was also found [$F(2, 444) = 4.16, p < .003$]. Follow-up simple main effects of age were significant for individuals in both the highest and lowest education levels. Educational level simple main effects were found for every age group.

Conclusions: Education effects were generally stronger than age effects. Age effects appeared to depend on educational level. Significant decline in performance was found after the 7th decade.

P005

The Boston Naming Test adapted in Greek: Age, gender, and education effects

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Background: The aim of the present study was to explore age, gender, and education effects on performance on the Boston Naming Test (BNT) adapted in Greek.

Materials and methods: All of the stimuli were administered in their original order to 70 subjects aged 50-70 years without history of neurological or psychiatric disorder as part of a pilot study. Based on the pilot data set 15 items were excluded, and the order of presentation was changed based on mean score for each item. The final version (45/60 items) was administered to 512 Greek participants aged 50-95 years.

Results: Cronbach's alpha was .93 and the stability coefficient was $r = .84$. The partial correlation coefficient between educational level and BNT scores controlling for age was .50. The correlation between age and BNT scores, independent of educational level, was -.40. ANOVAs were performed on total correct BNT scores without cueing with education level, gender, and age as between-participants factors. There were significant main effects of gender [$F(1, 450) = 16.54, p < .0001, \eta^2 = .035$], age, [$F(1, 450) = 38.50, p < .0001, \eta^2 = .15$], and educational level [$F(1, 450) = 72.40, p < .0001, \eta^2 = .24$], but no interactions between the three factors. Post-hoc Bonferroni-corrected pairwise comparisons indicated significant differences between all age group pairs, but also between all educational level group pairs ($p < .0001$).

Conclusions: The present data demonstrate mild deterioration in naming with advancing age. The effects of educational level outweighed those of age.

P006

Effects of demographic variables and health status on brief vocabulary measures in Greek

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Background: Assessment of lexical/semantic knowledge is essential on a number of diagnostic situations. Since more than one test is typically required, brief assessments would be useful as part of an extensive neuropsychological battery. The present study describes the development of short forms of two such tests adapted in Greek and reports the effects of demographic variables and health status on performance.

Materials and methods: Tests used were PPVT-R and BNT adapted in Greek (Simos, Kasselimis, and Mouzaki, 2011). The sample consisted of 468 healthy subjects aged 50-84 years.

Results: Short forms consisted of 32 items for the PPVT-R (PPVT-R-32), and 20 items for BNT (BNT-20). Education and age effects on performance were significant for both tests, with the former being stronger. A significant age by education level interaction was found only for PPVT-R-32. Indices of internal consistency and test-retest reliability were very good for each of the two tests. Correlation coefficients between full and short forms ranged between .95 and .97.

Effects of general and neurological health status were significant only for PPVT-R-32.

Conclusions: Total rate of inconsistent classification of persons with very low scores based on the short forms was less than 3%, highlighting adequate potential sensitivity for clinical purposes. The equivalence of the two versions of each test was further attested by similar patterns of relationships with demographic variables. The sensitivity of the short forms of each test for detecting lexical/semantic deterioration as a function of systemic diseases is also discussed.

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P007

Comprehension of Instructions in Greek: A variant of the Token Test

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Background: Assessment of sentence-level aural comprehension (SLAC) can be performed with a variety of tests varying in response requirements. A brief and easy to administer measure, not requiring an overt verbal or a complex motor response, is essential in any test battery for aphasia. The goal of the present study was to adapt a test of aural comprehension in Greek, and explore age and educational level effects on performance.

Materials and methods: The set of 14 verbal commands in the original version of the Comprehension of Instructions from the NEPSY (Korkman et al., 1998) were initially translated into Greek. Pilot data (N=70, aged 50-70 years) did not indicate the need to eliminate any items or change the order of item presentation. The test (henceforth referred to as Comprehension of Instructions in Greek - CIG) was administered to 496 healthy individuals aged 47-83, and 17 aphasic patients aged 36-84 years.

Results: Indices of internal consistency and test-retest reliability were very good (.76 and .70 respectively). Education and age effects on performance were significant, with the former being stronger. A significant age by education level interaction was also found.

Conclusions: The present data confirm previous studies (Ivnic et al., 1996) reporting significant educational effects on SLAC. Moreover, results on the effects of age on performance do not agree with previous findings (Lucas et al., 2005), suggesting that SLAC is not resistant to age effects. Relationships among sentence and word level aural comprehension tests and clinical utility of CIG are also discussed.

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P008

The Hellenic population based norms for the MMSE by age and educational Level (I.B.H.M Hellenic Study)

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Background: Since its introduction MMSE has become a widely used tool for assessing cognitive decline (1). The MMSE validation study in Greece confirms the score 23/24 as the cutoff point (2). However, there are no studies on the percentile distribution of the Hellenic Mini-Mental State Examination (MMSE) scores in older people by age and education level. In this study we examined the influence of age and education level to the MMSE total score and we report the distribution of MMSE scores by age and education level, estimated from cross sectional data.

Materials and methods: The longitudinal Ilion, Byron, Heliopolis, Municipality Hellenic Study (I.B.H.M Hellenic Study) is an ongoing population-based study of a Cohort of 497 community dwelling elderly voluntarily healthy participants (55 to 85+ years old) at study entry. Cognitive function was assessed using MMSE. Based on these data, the relationship between age, education and MMSE score was modeled.

Results: Performance on MMSE was related to age in men and women. The MMSE scores were related to both age and educational level. The increase of the age affects negatively the MMSE score (Pearson's correlation $-.256^{**}$). Higher educational level affects positively the MMSE outcome (Pearson's correlation $.315^{**}$). The combination of the subsets (age and education) with the (median) MMSE score gives an algorithm in order to determine appropriate cut off scores for cognitive decline.

Conclusions: Cognitive performance as measured by MMSE varies within the population by age and education. These findings provide the Hellenic population based norms for MMSE scores in subjects age 55 years and older from a longitudinal population-based data. Such norms can be used as reference values to determine where an individual's score lies in relation to his or her age, and education level.

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P009

Cannabis use and memory in humans: review of the literature

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Background: Deficits in memory are frequently associated with cannabis use, in both the short- and long-term. Most recent studies have examined working memory and verbal episodic memory and cumulatively, the evidence suggests impaired encoding, storage, and retrieval mechanisms in long-term or heavy cannabis users. These impairments are not dissimilar to those associated with acute intoxication and have been related to the duration, frequency, dose and age of onset of cannabis use. The precise nature of memory deficits in cannabis users, their neural substrates and manifestation however, requires much further exploration.

Materials and methods: In this study we examine the literature specific to memory function in cannabis users in the nontoxicated state with the aim of identifying the existence and nature of memory impairment in cannabis users and appraising potentially related mediators or moderators.

Results: Further, we provide data from studies conducted at the University of Patras Medical School, which have found specific deficits in various memory mechanisms.

Conclusions: There is sufficient evidence from the existing literature both from neuropsychological and neuroimaging studies that memory processes are deficient in long-term heavy cannabis users. The question however, of whether these deficits are reversible remain speculated.

P010

The effect of alpha electroencephalographic biofeedback on cognition and heart rate variability

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Background: Electroencephalographic (EEG) biofeedback represents a sophisticated technique that can be used to enable an individual to learn how to modify his own brain activity, which may lead to changes in both mental and physical behaviour.

Materials and methods: In this study we examined the effects of EEG biofeedback training to enhance upper alpha power on changes in the EEG, improvements in cognition and alterations in heart rate variability. Twenty seven healthy male subjects (18-34 years) took part in 10 training sessions aimed at increasing power in individual upper alpha range. Fourteen of these

participants were given real feedback based on changes in the power of their upper alpha range whilst the remaining 13 were given sham feedback and acted as controls. Measures of semantic working memory, creativity and heart rate variability were taken prior to and following the 10 training sessions, and again after a one month delay.

Results: showed that only those given real feedback exhibited an increase in their resting alpha frequency, alpha peak frequency, power in the individual upper alpha range and an overall increase in alpha band width. There was also evidence of increased heart rate variability, although this was found only for those with low baseline alpha frequency. Furthermore, providing such feedback training eliminated the alpha power decrease seen during completion of an arithmetic task in both high and low alpha frequency participants, and this was maintained after a delay of one month. In addition, those given real feedback also exhibited an increase in the accuracy of their semantic working memory performance as well as enhanced creative fluency. In contrast, those given the mock feedback showed no such effects.

Conclusions: Such findings suggest a role for alphaEEG biofeedback with regards to cognitive enhancement and may also play a role in clinical practice and brain-computer interface technology. In addition, the findings from this study will not only influence our understanding of the role that alpha activity plays in cognition but will also have important implications for the applied use of EEG biofeedback in studying cardio-cerebral interrelations.

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P011

The frequency shift in the EEG alpha band during optimal performance by marksmen

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Background: EEG biofeedback holds the potential for retraining brain electrical activity to enhance performance in athletes in various sports (see e.g., [1]). Nevertheless, the question of “precisely what brain activity should be trained” is far from clear. It is well known that skilled marksmen show a rise in amplitude of the EEG alpha rhythm during the aiming period, which is especially strong in the left temporal area. This phenomenon has been considered as a correlate of reduced activation in the related cortical areas during automated performance [2], shot-related intention [3], or denoting a shift from visual to somatosensory attention [4]. However, progress in understanding the mechanisms of this pre-firing increase in the alpha rhythm is hampered by lack of detailed knowledge of its characteristics. Hence, we examined the phenomenon using a more detailed analysis of the alpha rhythm components in terms of its frequency and spatial domains.

Materials and methods: EEG was recorded at 13 scalp locations in 6 world-class marksmen (members of Russian National Team) and 12 novices, and the spectral power was analyzed in alpha 1 (7-9 Hz), alpha 2 (9-11 Hz) and alpha 3 (11-14 Hz) bands.

Results: In all these bands, the spectral power decreased in the novices and increased in the marksmen during the aiming period of a target pistol shooting task, compared to the eyes-open rest condition. The highest values during the aiming period were obtained in the marksmen in the alpha 3 band, where they were significantly higher than in novices at all locations except P3. At the occipital electrodes, the alpha 3 power increased in the marksmen in the aiming

period even compared to the eyes-closed condition. Interestingly, the spectrum peak of alpha band during the aiming period is not the same as for rest with eyes closed in the same individual. Each marksman showed an increase in EEG frequency during shooting. The mean group frequency of alpha rhythm (that of maximal amplitude with eyes closed, and depressed when eyes are open) was 10 Hz and the mean group frequency of alpha activity just before shooting was 12.6 Hz.

Conclusions: For a methodology of neurofeedback in sport shooting it could be important to realize that in marksmen we are probably dealing with a phenomenon other than alpha rhythm in its usual classical definition. Nevertheless, such findings provide some plausible targets for EEG biofeedback training.

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P012

"Archetype of music perception" projective test for musical students training

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Background: C.G. Jung considered the process of individuation necessary for a person to become whole. This is a psychological process of integrating the conscious with the unconscious while still maintaining conscious autonomy. We proposed to use Jung archetypes in order to practically realize and implement them in musical pedagogics.

Materials and methods: Among many musical examples of J.S. Bach, L. Beethoven, N. Rimsky-Korsakov, P. Tchaikovsky & ets. were chosen few with the most archetypes shaped features by 20 music-playing teachers and professors, 37 students and by 4 children at 5 years old. After 14 years these children were retested. Besides, there were created 27 special archetype music-peaces for the diagnostic procedure. Teachers investigated them with the help of psychological testing Torrence nonverbal creativity test, Motor tapping test, Eysenck's introversion extraversion test, Projective pictures test in author's modification and written pedagogical reports of individual style of cognitive activity. By the factor analysis of psychometric measures with the program SPSS-16 there were found 6 components (factores), which have been identified of archetype features in the musical intoning (when playing and perceiving music).

Results: The results of the psychometric and longitudinal research showed the more stability of the revealed individual psychological archetype characteristics and that allowed us suggest that archetype structure of individuality is a stable prevailing feature irrespective of ability development, training level, successfulness or unsuccessfulness in activity.

Conclusions: Author created a structural model of individual psychological features of music

perception and performance, which could be used for understanding archetypes in musical performance and perception and for psychodiagnostics and pedagogical strategies in musical professional training.

P013

Alpha EEG indices of musical performance abilities development in musicians and non musicians

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Background: Previous investigations showed that Individual alpha EEG activity associated with fluency and creativity in musical performance (Bazanova et al 2003, 2008). So studying the changes in EEG alpha activity during development may help to understand maturation of musical performing ability.

Materials and methods: We used different age group comparative study of the coefficient the imitating musical movement optimality, EMG of muscles not participated in musical execution, nonverbal creativity, pitch, tactile sensitivity and individual alpha EEG activity indices (peak frequency (IAPF), band width (IABW), amplitude suppression (IAAS) in response to eyes open) in healthy participants of 3-25 years old: 178 musicians (those who have musical performance and training experience) and 123 non musicians.

Results: Pitch and differential tactile sensitivity threshold decreased, while coefficient of musical movement optimality simultaneously with IAPF and IAAS increased with age in both musicians and non musicians. The variability of these changes was larger in non musicians than musicians' alpha indices. Originality in non verbal creativity and IABW had no difference in musicians and non musician's age groups

Conclusions: Increases in musical performance quality, pitch and tactile sensitivity sharpening with age were associated with IAPF and IAAS increasing and may be interpreted in terms of a reorganization of the EEG towards a higher frequency oscillatory scale and higher activation which reflects maturation of "top down" control in both musicians and no musicians. The originality in non verbal creative task performance and individual alpha band width should be discussed as possible genetically determined kind of musical performance ability.

Acknowledgements:

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P014

Bupropion in Depression - our experience (Case Report)

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Background: Depression as a disease of modern times is constantly growing and it is regarded as a global, medical, individual and economic problem. Special importance have major depressive episodes (first or recurrent) with resistance to pharmacotherapy with antidepressants. Main goal of this paper is to demonstrate the reliability of using the antidepressant with dual mechanism of action (bupropion).

Materials and methods: Case study of elderly female client of CMHC Prijedor with recurrent major depressive episode from author's practice and using data from a patient's file and with follow up period of 28 weeks after first visit of CMHC Prijedor.

Results: After resistance on first-line pharmacotherapy (SSRI antidepressant) we achieved a positive development and progressive improvement of patient's condition with better involvement of other parts of the therapeutic process (psycho- and socio-therapy) after 4 weeks of use of bupropion (antidepressant with dual mechanism of action), in a single dose of 150 mg [1][2].

Conclusions: Bupropion is a drug of choice for the treatment of major depressive episode especially for inhibited depression, and in a single daily dose of 150 mg is antidepressant of choice for the elderly with depression [3].

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P015

Effectiveness of upper alpha EEG biofeedback training may depend on the type of self-regulation technique and the level of resting baseline activity

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Background: It has been shown that alpha biofeedback training is a prominent and useful technology for enhancing cognitive performance and improving behavior of those diagnosed with psychosomatic disorders. However it has been noted that its efficiency does not exceed 70% (Monastra, 2002) and that factors influencing the training efficiency remain unclear.

This study examined the relationship between the type of self-regulation technique utilized by the participant and the effect this had on their ability to learn to alter their EEG via, biofeedback.

Materials and methods: Twenty seven healthy male subjects completed 10 training sessions, 14 of which were given real feedback (BFT) based on the power of their upper alpha frequency, whilst the remaining 13 were given mock feedback and acted as controls (Mock BFT). Participants used a range of self-regulation techniques which are known to be associated with increasing upper alpha power: prolonged exhalation, posture control, forehead muscle relaxing, oculomotor technique, and mental images. Training session efficiency (learnability coefficient) was calculated as the ratio between the time of the successful periods of training to the time of the whole session.

Results: Upper alpha BFT had an impact on the level of alpha activity indices and cognitive performance enhancement, while mock BFT had no such effects. However, training session efficiency correlated with baseline individual alpha frequency rather than with a particular self-regulation technique. This showed that training efficiency of first session was higher in subjects with high alpha frequency (HAF >10 Hz) than in low alpha frequency subjects (LAF <10 Hz). Then after 10 BFT sessions, HAF subjects of experimental group did not increase the session efficiency while LAF increased training efficiency more than two times.

Conclusions: The efficiency of BFT may depend more on the baseline individual alpha frequency than the particular strategy used.

P016

The problem of organizing gerontopsychiatric services in Armenia

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Background:

With increasing number of life expectancy the number of mentally ill elderly, especially those with dementia, also rises. According to demographic predictions, the number of demented elderly will rise by 50% in the beginning of 21st century. Some gerontopsychiatrists speculate that the distribution of dementia and other intellectual and mental disorders in the elderly has become an epidemic people in recent years, a "silent epidemic," and senile dementia will become the illness of the century in near future (Yatsemirskaya RS, Belenkaya I. 1999).

Difficulties in the organization of specialized care of gerontopsychiatric patients are connected to a number of circumstances.

Those include the lack of developed diagnostic approaches, especially regarding to patients with subclinical, somatized, masked mental disorders, pathological states with latent beginning, appropriate conditions for the solution of diagnostic and therapeutic tasks, maintenance of patients with psychiatric care in combination with somatic, limited information and professional communication between specialists and general practitioners.

Results: It is well known that the treatment of elderly and senile patients should be comprehensive, taking into account not only mental but also physical conditions. The successful treatment in elderly patients is especially determined by the combined effect on somatic and psychological spheres. The need of a complex care is explained by frequent combination of mental and physical illness in older adults and the elderly, and the fact that the mentally ill are disproportionately affected by somatic diseases than mentally healthy people in this age group (T. Zozulya, 1998).

However, we identified data that shows that only 25% of patients had noted the presence of somatic pathology, and complaints have been fixed in the history of patients, ie, the presence of somatic pathology pointed by their relatives. The remaining 75% of patients showed no physical illness; either they were not even examined by a physician.

A similar pattern is revealed in the analysis of data distribution, the availability of somatic pathology in regions. Most of the patients were residents of Yerevan, of which only 32.5% noted somatic diseases.

Meanwhile, the biochemical changes, tissue structure of varying degrees occurring in aging affect the function of several organs and systems (decrease in lung capacity, bronchial obstruction, changes in the aorta, gastrointestinal tract, etc.). Therefore, one of the features of elderly patients is polymorbidity. There are several diseases that have their specific manifestations, peculiarities of which have different effects on quality of life and require appropriate therapy. Mental state disorders in the elderly often occur due to a complication of an existing physical illness. According to the data of WHO (1996) more than half of the gerontological contingent suffering from a moderate or severe medical condition have certain mental disorders.

Conclusions: Thus, the health care of elderly and senile patients requires a special approach, deep knowledge of the psychological characteristics of gerontological contingent, the features of mental disorders and the presence of comorbid disorders, the influence of drugs in the treatment of somatic diseases in the psychiatric sphere in elderly patients and vice versa.

P017

Neurotherapy leads to modification of biopotential pattern and characteristics of personality, changing activity of aminergic systems

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Background: It is known that characteristics of the EEG and event-related EEG potentials (ERP) have a considerable interindividual variability. Hence, the aim of this study was to examine possible changes of EEG potentials and characteristics of human personality as a function of EEG biofeedback training.

Materials and methods: Twenty five children and 58 adults took part in the first investigation. The effect of EEG-FB training (8-15 sessions) on the EEG was studied. This showed that an increase in the relationship between alpha- beta- and sensorimotor rhythm on one hand and theta rhythm on the other hand was associated with decreased anxiety and improved cognitive functions.

In a second series the investigations were carried out on awake cats to study the neural mechanisms underlying the discovered relationships between changes in brain activity and changes in cognitive function.

Results: The results are as follows: an increase in the relationship between alpha- beta- and sensorimotor rhythm on one hand and theta rhythm on the other hand was associated with decreased anxiety and improved cognitive functions.

Activity registration of 360 dopamine-, noradrenalin- and serotonergic brainstem cells showed that the frequency of their discharges was positively and closely correlated with alpha- and beta-rhythms. In addition, changes of neuronal activity coincided with the development of ERP components that are registered in the conditioned reflex reaction to the countdown. Further-

more, teaching the animals to control EEG rhythms in EEG-FB paradigm also showed significant changes in activity of aminergic neurons.

Conclusions: The obtained data indicate that EEG and ERP patterns, may involve the participation of aminergic brain systems which probably influences the expression of personality traits.

P018

Evaluation of the interaction between histamine and GABAergic system in the CA1 region of rat hippocampus on spatial memory

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Background: There are some reports showing the existence of a functional interaction between the GABAergic and histaminergic systems (1, 2, 3). Tuberomammillary nucleus contains histaminergic neurons which innervate the GABAergic nucleus of medial septum and then project to the hippocampus and associate learning and memory functions. In the present study, we have investigated the effects and the interaction of the GABAergic and histaminergic systems in the CA1 region of the hippocampus using the Morris water maze (MWM) test of spatial memory (4).

Materials and methods: Male albino Wistar rats cannulated in their CA1 region received bilateral injections of different doses of muscimol (GABAA receptor selective agonist, (0.005, 0.01 and 0.02 µg/rat), bicuculline (GABAA receptor selective antagonist; 0.05, 0.1, and 0.5 µg/rat) or histamine (0.01, 0.05, 0.1 and 0.5µg/rat) through the cannulae 5 min before training each day. Animals were subjected to 5 days of training in the MWM; 4 days with the invisible platform to test spatial learning and the 5th day with the visible platform to test motivation and sensorimotor coordination.

Results: The results showed that bicuculline dose dependently decreased escape latency, traveled distance showing a memory-improving effect. Conversely muscimol showed an impairing effect in the doses of 0.01 and 0.02 µg/rat. Intra-hippocampus injection of histamine also showed improving effect at the doses of 0.1 and 0.5 µg/rat. Co-administration of histamine (0.01 µg/rat) with muscimol reversed the memory impairing effect of muscimol at the dose of 0.005 µg/rat while co-administration of ineffective dose of histamine (0.01 µg/rat) with ineffective dose of bicuculline (0.05 µg/rat) improved spatial memory showing a synergic effect.

Conclusions: In conclusion, it seems that both histaminergic and GABAergic systems not only play a part in the modulation of spatial learning in the CA1 region but also have opposite effects in this brain region.

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P019

Reminder blocks fear from returning in auditory conditioning paradigm

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Background: Research on fear learning offers valuable insights for PTSD, Panic disorder etc. Fear learning is good to certain extent as it inhibits individuals from threats and danger (Phelps & Olsson, 2004; Hamm & Weike, 2005). It is adaptive learning which provides information about “fight or flight” towards a threatening stimulus. But failure of this adaptive fear learning system can lead to serious problems and also influence the quality of life. Recently, a study published in *Nature* (Schiller et al., 2010) provides an evidence of complete blockage of fear return targeting the reconsolidation window. The aim of the present study was to extend previous findings to an auditory fear conditioning paradigm, by using reminder before extinction training after auditory fear conditioning.

Materials and methods: 29 healthy individuals were recruited for the present study. Simple auditory conditioning paradigm has been used with two groups (experimental and control). Two colored squares were taken as conditioned stimuli and auditory stimulus (scream) as unconditioned stimulus. The experiment was a three consecutive days sessions: Day 1 Acquisition; day 2 Extinction and Re-activation; lastly day 3 Re-extinction. After fear conditioning on day 1, all participants underwent extinction training after a 24 hour gap. In experimental group fear memory was reactivated before the extinction training by presenting a reminder (conditioned stimulus) followed by a break of 10 minutes. On day 3 both the groups underwent re-extinction without the presentation of a reminder. Skin Conductance Response (SCR) was recorded for the measurement all three days.

Results: Participants were excluded from the analysis that did not showed conditioning or having more than 50% artifacts in the raw data of SCR. Conditioning was assessed by using two-way analysis of variance (ANOVA). The results were significant stronger responses to CS+ than to CS- during acquisition ($t= 5.575$; $P=0.000$) and to CS+ during acquisition than to CS+ during habituation ($t=-5.038$; $P=0.000$). Additionally there was no difference between responses to CS+ and CS- during habituation ($t=-1.461$; $P=0.158$) and to CS- during acquisition and habituation ($t=2.703$; $P=0.013$). Spontaneous recovery was evaluated using a three-way ANOVA with main effects of time (t_2 in extinction=1 and t_1 in re-extinction=2), stimuli (CS+=1 and CS-=2)

and group (reminder=1 and no reminder=2). This revealed a significant main effect of time ($F(1,22)= 3.630$; $P=0.070$), a stimuli x time interaction ($F(1,22)= 11.878$; $P=0.002$) and a stimuli x time x group interaction ($F(1,22)= 8.347$; $P=0.009$). Follow-up t-tests compared the differential responses between groups in CS+ (reminder=1 and no reminder=2: $t= -1.791$; $P=0.087$) displaying a marginal significant difference.

Conclusions: The present observation suggests that reminder helps in successful blockage of fear memory in auditory conditioning paradigm.

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P020

The effects of zinc administration on depression in adult male rats

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Background: Zinc is an essential micronutrient and is required for the normal development and function of the nervous system. Acute Zn deficiency impairs neuropsychologic and brain functions of experimental animals and humans and probably involve in mechanisms mediating depression. In this study the effects of zinc chloride administration were investigated on depression in adult male rats as assessed in Forsed swimming test (3).

Materials and methods: Different doses of zinc chloride(1.25, 2.5, 5 and 10mg/kg) or vehicle (saline ;1ml/kg) was intraperitoneally injected 24h and 0.5h before evaluation of depression. A plexyglass cylinder (height 40 cm, diameter 30 cm) containing 25 cm of water, maintained at 25°C was used as swimming test apparatus. For introducing the task to rats they were forced to swim individually into cylinder for a period of 15 min a day before testing. They were again placed in the cylinder 24 h later and total time of immobility and latency to immobility were measured during a 5-min test (1).

Results: Results showed that immobility time was significantly reduced in groups received zinc chloride (10mg/kg) in compare with control group ($P<0.01$). While latency to immobility was dose dependently increased as compared with control group but did not reach the significance criteria.

Conclusions: Our finding suggested that intraperitoneal administration of zinc chloride dose dependently induced antidepressant like effects in rats. In conclusion, in the present study, the antidepressant like effect of zinc chloride in the FST was obtained and it is in accordance with previous studies in rats (2).

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P021

Neuropsychological characteristics of prisoners serving a sentence for domestic violence. Catamarca Argentina

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Background: There are many emotional factors involved in the development of homicide domestic violence. From an emotional point of view, it's been observed a neurobiological predisposition that, interacting with traumatic experiences in early ages, potentiates the development of this behavioral disorder, causing aggressive and violent acts against one's peers. However, not all offenders have the same personality. The group was classified, based on interviews, their criminal record, and the characterization from the DSMIV-R, into three categories of offenders with different personality disorders: impulsive, psychopaths and narcissists. The aim of this study was to evaluate in a neuropsychological way a group of male inmates with a sentence for domestic violence, who had killed their partners, imprisoned in Catamarca, Argentina, during the years 2009-2010. We performed different memory tests: Immediate, related to work, semantic, evocative, implied, executive functions and social cognition.

Materials and methods: The sample consisted of 51 male prisoners aged 35 to 41 years old serving sentences for the murder of their partners in the penitentiary of Catamarca and a control group of 51 not imprisoned men with no history of violence of any kind, with the same age range and levels of education. The prisoners were divided into 3 groups: 24 responded to an impulsive personality disorder, 17 had a history of violent and antisocial behavior categorized as psychopathic personalities and the 10 remaining were diagnosed with a Narcissistic Personality Disorder.

Statistical analyses were performed with the scores from the different neuropsychological tests, using the variance analysis (ANOVA), with significance tests for 2 independent samples, assuming unequal variances.

Results: The results show significant differences between the control group and the group of prisoners in all the tests administered, and also between groups with different levels of education, particularly when we used tests of working memory and tests of executive tasks that assess a set of cognitive skills that enable the anticipation and setting of goals, the design of plans and programs, the regulation and monitoring of tasks and a precise selection of behaviors.

Conclusions: Results indicate that violent aggressor regardless of classification can be differentiated psychological and neuropsychological nonviolent population. There were significant differences in neuropsychological evaluations among impulsive and psychopaths and narcissistic group. The results are discussed in terms of the anatomical basis underlying these processes and and the potential for rehabilitation

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P022

Depression and cognitive performance in patients with meningiomas

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Background: Our aim in undertaking this study was to examine if the presence or absence of depression in pre-operative patients with meningiomas can affect their verbal and visual memory. This hypothesis was formed on the evidence that depression can influence the cognitive function of patients with other comorbid psychological/psychiatric or neurological diseases.

Materials and methods: Twenty-three patients (12 males) with meningiomas in various brain regions (8 right, 7 left and 8 bilateral) and of various sizes participated in the study. Their mean age was 58,60 years (SD=12,26, range 31-77), level of education 9,47 years (SD=3,82) and time since the first signs of possible brain disease (headaches, fatigue, fainting) 4,21 years (SD=2,19). Patients were grouped based on the Geriatric Depression Scale score, yielding 10 high and 13 low scorers. We administered a battery of neuropsychological tests concerning mainly: verbal memory [word list learning: immediate recall, delayed recall and recognition; story learning: immediate and delayed recall], working memory (Digit Span backward), verbal fluency (semantic and phonological) and visual memory (Rey-Osterrieth Complex Figure Test immediate recall, delayed recall and recognition).

Results: One-way multivariate analysis of variance (MANOVA) with depression status as the independent variable and the scores on the neuropsychological tests as the dependent variables revealed no statistically significant differences between the groups. Also, using linear regression no significant correlations were found between performance in neuropsychological tests and GDS scores.

Conclusions: Memory performance of pre-operative meningioma patients was not differentiated based on whether they had high or low scores on a depression scale. This finding could be interpreted by the fact that meningiomas develop slowly and they give the patients the opportunity to adjust to possible cognitive and emotional problems.

P023

A Cognitive-Behavioral Treatment approach of a Social Phobia case

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Background: Social phobia can be described as an anxiety disorder characterized by strong, persisting fear and avoidance of social situations (Kaplan & Sadock 1998). The lack of clear definition of social phobia has been reported by clinicians and researchers and features of social phobia overlap with those of other anxiety disorders. More specific panic disorder and agoraphobia have been noted to overlap with social phobia, and the same applies to generalized anxiety disorder. Furthermore individuals with Social Phobia, have a higher risk of having generalized anxiety disorder, depression, and specific phobia (Beidel, Morris & Turner, 2004).

Materials and methods: A 23-year-old Greek student, came for treatment, to the Counselling Centre of a University in Athens, complaining of panic attacks and severe symptoms of anxiety. These symptoms were triggered when travelling by plane, driving a car and visiting high buildings or high places. His symptoms lead him to avoid such situations and his daily life was affected. At the Counselling Centre, the student was diagnosed with social phobia and was given 20 sessions of individual Cognitive-Behavioral Therapy (C.B.T.) and supportive psychotherapy. The treatment involved, among other techniques, self-monitoring, cognitive restructuring, muscle relaxation, breathing re-training, and assertiveness training.

Results: To better assist diagnosis, conceptualization, and treatment, two therapists were involved. The following measurements were chosen to assess the situation, a) STAI: (Spielberger, Gorsuch & Lushene, 1970) assesses state and trait anxiety in adults. b) SPAI: (Turner, Beidel, Dancu, & Stanley, 1989), assesses cognition, physical symptoms, and avoidance/escape behavior in various situations. It includes two subscales: Social Phobia and Agoraphobia. Treatment measurements of Anxiety as measured by STAI were: State scale, Pre-Treatment: 64 / Post-Treatment: 41. Trait scale, Pre-Treatment: 63/ Post-Treatment: 42. Measurements of Social Phobia and Agoraphobia as measured by SPAI was, Pre-Treatment: 126 /Post-Treatment: 100.

Conclusions: The present STAI & SPAI results indicate a good improvement of anxiety, Social Phobia and Agoraphobia. The patient also worked on a list of feared hierarchies in combination with Jacobson's relaxation exercises, and was able to manifest his high levels of anxiety. Furthermore, he learned to identify his automatic thoughts and was trained to find adaptive responses. It seems that 20 C.B.T., sessions could be enough, to help overcome panic and anxiety attacks, without the use of any pharmacological treatment. The follow-up session a month later showed that the progress was sustained. Also worth mentioning and vital to any therapeutic outcome, is the development of good rapport between patient-therapist.

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P024

Mothers of autistic children and their personal experience: Thoughts about mental health services

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Background: The purpose of this research study is to help distinguish the main factors that influence mothers of autistic children and reveal their real needs that mental health experts should focus on.

Materials and methods: Five mothers of autistic children with severe learning disabilities (4 boys and 1 girl, with mean age 10,7 years and mean age of formal diagnosis for the child 2 years and 2 months) from Northern Greece participated in the study. The mothers' mean age was 37,5 years and level of education 12 years. The method that was used were semi-structured interviews based on grounded theory that aimed at unveiling (without imposing false categories) the main categories that shape their everyday thoughts.

Results: Results indicated that for all the participants existed initially 107 categories that were later diminished at 4, which concern: the child's (mis)behavior-interaction with others, the social life of the family, the general support network and the thoughts for the future of the child. All the above categories were explicitly linked with and causally created from the poor existing health care system.

Conclusions: Mental health experts should understand that in many cases there exists an imperative need for the design of support programs or/and therapeutic programs for parents of disabled children.

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P025

Somatization Disorder in Nephrology

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Background: Nephrology patients often have somatoform disorders, especially somatisation disorder (SD). It can be primary when fear is dominant symptom or secondary in the frame

of other organic and/or mental disorders[1]. Main goal of this paper is to evaluate that somatisation disorder is more often accompanied with microalbuminuria (MA) in patients with suspected Balkan's Endemic Nephropathy[2] (BEN) vs other nephrology diseases (ND) , during the period 2005-2010.

Materials and methods: SD were proved in patients with MA in BEN group (n=250) compared to the patients with MA in other ND (n=250) trough multicentric, longitudinal, comparative study in Bosnia and Herzegovina (B-H) with use of adopted B-H Renal Register Questionnaire (BHRRQ) and psychological battery tests: Eysenck Personality Questionnaire (EPQ), Beck Anxiety Inventory (BAI) and Hamilton Depression Rating Scale (HDRS).

Results: In nephropathy group SD was found in 10.50%, while in the control group SD was present in 7.00%. On multivariate model, SD in BEN was resulted in relation with living in village house and renal heredity, while in control group results shown connection with migration and living in city flat.

Conclusions: Majority of the patients tested on MA were found with somatisation of fear, and SD was found in more patients with BEN than controls. Somatisation was proved using socio-demographic, anxiety, depressiveness and cognitive disturbance.

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P026

Socio-pathological significance of sexual abuse

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Background: Sexual violence is the most traumatic experience for women with many consequences[1]. It is often related with specific characteristics of the abusers. Trough this study of family and psychopathological analysis of the sexual abuse in Bosnia and Herzegovina(B-H) during period 2005-2010 we showed increase of sexual abuse which is more expressed through the level of violence and its socio-pathological significance.

Materials and methods: The design of study is a multicentric longitudinal study with experimental group of 200 forensically processed subjects, who are under security measures and under treatment after the rape vs. control group of 200 forensic subjects who have had repeated property crimes.

Results: Socio-demographic differences for the gender are highly significant since broken family, migration and diseases in family are of lower significance. Also, psychological scales scores (EPQ, Lay and BAI) resulted in differences between violent and control group of the repeated

non violence criminals. PIE in violent subjects has increased values of destruction and aggression and in control group exploration and conformism.

Conclusions: The study proves gender significances, family and other micro-social differences. The destruction score in psychological tests is high in violators, which results in the following psychopathological content: immaturity, personality disorder and posttraumatic conditions[2]. Recommendations in the treatment of violators and repeaters also have forensic significance, except for expertise.

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P027

Suicide attempt: violent vs. non-violent

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Background: Suicide attempt is an emergency in psychiatry and it occurs in different forms as the first or recurrent attempt. The aim of this paper is to prove the difference in frequency of suicides in conditions connected with suicide attempt together with socio-demographical and psychopathological predictors in one year period[1].

Materials and methods: Subjects have been divided into two groups depending of the way of suicide attempt (150 violent and 150 nonviolent attempts), in a multicentric prospective study in Bosnia and Herzegovina (B-H). The following instruments have been in use: ICD-10 Criteria, Eysenck Personal Questionnaire (EPQ), Hamilton Depression Rating Scale (HDRS), Plutchik's Emotion Profile Index (EPI) and Semi-Structured Interview for Psychological Autopsy (SSIP). Patients were treated by psychopharmacological, psycho- and socio-therapy.

Results: Multivariate analysis showed the highest difference between groups in a violent group comparing to a nonviolent, treatment length, compliance, severity of depression and motivation.

Conclusions: Forms of suicide attempts have not shown statistically significant difference. This study has shown the difference in the length of treatment, cooperation with therapeutic team, depression worsening regardless its origin and motivations for social adaptations and participation. Patients with more expressed mentioned predictors were attempting suicide faster, regardless therapeutic treatment[2].

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P028

Various reasons for self-destructive acts and objects used to commit them in 1991

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Background: The objective of the research is to study and assess the reasons for self-destructive acts committed by the individuals that underwent outpatient forensic psychiatric examination in 1991, and to give a brief characteristic of the objects used to commit the self-destructive acts.

Materials and methods: The research methods. The statistic method and comparative analysis were employed to study the anamnestic data of 30 archive acts of outpatient forensic psychiatric examination that cover the period of January-March 1991.

Results: The analysis of the archive acts revealed 30 males aged between 15 and 51. The reasons for committing self-destructive acts by the examined individuals who underwent outpatient forensic psychiatric examination in 1991 included the following: conflicts with people around were recorded in 12 patients, conflict situations with parents and other close relations - in 5, conflicts with inmates in place of imprisonment - in 4, conflict situations during military service - in 3, an effect of command hallucinations - in 2, current investigation - in 1, conflict with loved ones - in 1, protest - in 1, extended headache in combination with high blood pressure - in 1 individual. Also according to the archive documents of forensic psychiatric examination 18 out of 30 individuals used sharp cutting and piercing objects (razor, kitchen knife or penknife, glass, fragment of broken mirror, wire, sharpened coin, cigar case, etc.), 3 individuals used washing line or belt, 3 patients used a medicine in tablet form, 1 individual used a medicine in liquid form, and 1 patient used the effect of low temperatures (long deliberate stay in cold weather in winter).

Conclusions: The research findings demonstrate that the most common reasons for self-destructive acts committed by the examined patients in 1991 were conflict situations in the society among individuals out of prison, in place of imprisonment and in place of military services. The objects used to a greater extent for committing self-destructive acts included: sharp cutting and piercing objects (most often razor and kitchen knife), washing line, and a medicine in tablet form.

P029

Schizophrenia, social and self-stigma

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Background: To describe the association between the stigmatized knowledge on schizophrenia and socio-demographic variables on the sample studied.

Materials and methods: Analytic observational transverse study on a stratified sample comprised of 202 individuals aged between 18-65 years. The sample was divided in two groups, 128 healthy individuals and 74 individuals diagnosed with schizophrenia (DSM-IV-TR). Participants were recruited and their socio-demographic variables were collected, comprising studies and place of living. Individuals filled out a questionnaire where knowledge on schizophrenia and social stigmatization against this disease were tested. Different items on the most frequently negative stereotyping linked to schizophrenia were analyzed:

1. Work activity: Once a person is diagnosed with schizophrenia, he can not go back to work.
2. Drugs consumption: Most patients take drugs.
3. Criminality: Most violent crimes have been committed by these patients.
4. Health assistance: Individuals with schizophrenia must be assisted in psychiatric centres away from general ones.

Descriptive study presented in percentage distributions of items depending on the group. We used Chi-squared statistical study to compare the distribution of stigmatizing answers on schizophrenia as a function of the following sociodemographic variables: Level of studies and place of living.

Results: Healthy Individuals who only attended primary school, more frequently present stigmatization answers on schizophrenia: back to work ($p=0,012$)*, drugs consumption ($p=0,001$)** Patients with schizophrenia who only attended primary school, more frequently present stigmatization answers on schizophrenia: Drugs consumption ($p=0,03$)*

Patients with schizophrenia more frequently present stigmatization answers on schizophrenia. Criminality ($p=0,02$)*

No significant differences were found in function of place of living ($p>0,05$)

Conclusions:

There is a misconception of schizophrenia in both groups.

The group of patients present a higher rate of stigmatizing answers (self-stigma).

P030

The effect of monoamine oxidase B (MAOB) and catechol-O-methyltransferase (COMT) polymorphisms on levodopa therapy in the Iranian patients with sporadic Parkinson's disease

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Background: Parkinson's disease (PD) patients vary widely in their response to levodopa treatment, and this variation may be partially genetic in origin. Recent studies suggest that monoamine oxidase B (MAOB) A644G and catechol-O-Methyltransferase (COMT) G1947A polymorphisms might influence the risk and treatment of PD [1,2]. The aim of the study was to evaluate the effect of MAOB and COMT genetic polymorphism on effective daily dose of levodopa applied in the fifth year of treatment, and to find out if a relationship exists between MAOB and COMT haplotypes and motor disturbances onset in PD patients treated with levodopa preparations.

Materials and methods: A total of 103 patients (31 females and 72 males) of Iranian origin

diagnosed with sporadic PD were enrolled into the study, and were divided into two groups. Group 1: patients treated with doses of levodopa below 500 mg/day in the fifth year of treatment. Group 2: patients requiring levodopa doses exceeding 500 mg/24 h in the fifth year of treatment. MAOB and COMT polymorphism genotyping was performed by using PCR-based restriction fragment length polymorphism (RFLP) analyses.

Results: Our results show that patients from the first group suffered less frequently from dyskinesia than patients from the second group. No statistically significant differences were found in allele frequencies and genotype distributions of the studied genes between two groups. In addition, the incidence of the specific haplotypes between the two groups did not show any differences.

Conclusions: The result of the study confirms the previously reported minor contribution of MAOB and COMT polymorphisms on the therapeutic response to levodopa [3,4]. It suggests that pharmacokinetic or pharmacodynamic factors other than the investigated genetic variants of the MAOB and COMT enzymes seem to determine the response to levodopa in the Iranian PD patients.

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P031

The Combined Use of Mesenchymal Stem Cells and Hematopoietic Growth Factors for Treatment of Alzheimer's disease

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Background: Alzheimer's disease (AD), an age-related neurodegenerative disorder clinically characterized by progressive cognitive dysfunction and memory loss and by deposition of amyloid plaques, neurofibrillary tangles in the brain and neuronal degeneration. The study investigated the therapeutic effect of combined mesenchymal stem cells (MSCs) and erythropoietin (EPO) on AD.

Materials and methods: Five groups of twelve adult mice each were used. Group I: control.

Then AD was induced to the other four groups by a single dose of lipopolysaccharide (LPS) 0.8mg/kg intraperitoneal (i.p.). Group II: AD without treatment, Group III: received a single injection of (MSCs) into the tail vein (2X10⁶cells), Group IV: injected with EPO, i.p. (40µg/kg body weight) 3 times/week for 5 weeks. Group V: received MSCs and EPO

Mice were tested for locomotor activity and memory using open field and Y-maze. Histological, histochemical, immunohistochemical studies, morphometric measurements. Acetyl choline transferase activity, gene expression of brain derived neurotrophic factor (BDNF) and mitochondrial swelling were assessed in all cerebral specimens.

Results: LPS decreased locomotor activity and percentage of correct choices. It increased significantly mitochondrial swelling, the percentage area of amyloid plaques and of dark nuclei. Acetyl choline transferase activity and BDNF were decreased. Combined treatment of MSCs and EPO, showed the best results in improving all these parameter.

Conclusions: This study proved the effective role of MSCs in relieving AD symptoms and manifestations; it highlighted the important role of EPO in of treatment of AD.

P032

Scopolamine-induced memory impairment; possible involvement of NMDA receptor mechanisms of septum

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Background: Glutamate as an excitatory neurotransmitter is particularly abundant in the mammalian brain [1]. Both NMDA [2] and acetylcholine are involved in learning, memory [3]. Their receptors are found in high density in the septum [4]. In the present study, the effect of pre-training intra-septal administration of scopolamine, a acetylcholine antagonist, and NMDA receptor agents in avoidance memory have been investigated.

Materials and methods: The male Wistar rats were bilaterally implanted in medial septum, trained in a step-down inhibitory avoidance task, and tested 24 h after training to measure step-down latency.

Results: The results showed that pre-training intra-septal administration of scopolamine (0.5, 1 and 2 µg/rat) and D-AP7, competitive NMDA receptor antagonist, at doses of 0.025, 0.05 and 0.1 µg/rat reduced, while NMDA (0.125 and 0.25 µg/rat) increased memory acquisition. Intra-septal injection of subthreshold dose of NMDA (0.06 µg/rat) decreased but subthreshold doses of D-AP7 (0.006 and 0.012 µg/rat) increased scopolamine-induced amnesia in the septum.

Conclusions: The results may suggest that the glutamatergic system in septum is involved in memory acquisition processes induced by cholinergic system.

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P033

Alzheimer's disease and Type 2 Diabetes mellitus: Common pathophysiological mechanism

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Background: Alzheimer's disease (AD) is the pandemic of the 21st century affecting 18 million people worldwide, while Diabetes mellitus Type 2 (T2DM) is one of the most common metabolic disorders with 250 million patients. Recent studies indicate that the two conditions are linked and may share pathophysiological processes. This article attempts a review of the literature to examine the relationship between T2DM and AD and the proposed mechanisms.

Materials and methods: 21 studies (2000 - 2011) have been included, original articles, reviews and meta-analysis, regarding the link between T2DM and AD, from epidemiological and pathophysiological aspects.

Results: Diabetic patients are at high risk for AD, reaching even 65% 1. Obesity, hyperinsulinemia and hypoglycemic incidents add further to the risk. Additionally, patients with AD are at risk for hyperinsulinemia and hyperglycemia 2. Insulin and the insulin receptor (IR) are abundantly expressed in the brain. Insulin influences neurotransmitters and synaptic plasticity and improves learning and memory. Impaired insulin signaling is associated with age relating deterioration. Also, defects in Insulin like Growth Factor 1 Receptor (IGF-1R) and IR are related with amyloid plaques and neurofibrillary tangles 3. Amyloid deposition is a common pathophysiological mechanism between AD and T2DM: in AD accumulation of A β , deriving from APP, in the brain, and in T2DM of islet amyloid, derived from islet amyloid polypeptide (IAPP), in the pancreas. The 90% structural similarity between APP and IAPP suggest similar physiological roles 4.

Conclusions: DM and AD were considered as two separate conditions; however recent studies show that they are in fact linked. Although there have significant differences, there are many similarities to their epidemiology, origin and natural history and evidence that they share pathophysiological mechanisms.

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P034

Evaluation of Burnout syndrome and anxiety levels in mental health professionals

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Background: Burnout is an important occupational problem for health care workers (Peterson et al., 2008). It has been well established that burnout, defined as emotional exhaustion (EE), de-personalisation (DP), and a 'decreased sense of personal accomplishment (PA) in response to personality traits (state and trait anxiety). This has proven having implications in the delivery of daily duties and patient care. We aimed to assess the burnout syndrome and anxiety levels among nurses and social workers, (Ashkar et al., 2010).

Materials and methods: The Maslach Burnout Inventory (it measures the three stages of burn-out-emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA), and State and Trait Anxiety Inventory (S.T.A.I.), were administered to 27 nurses and 15 social workers aged from 24 to 54 years. The sample was taken from seven general hospitals in the broader area of Athens. Age and years of work experience were also recorded.

Results: State anger was higher for nurses ($M=0,44$, $S.D.=0,20$) than for social workers ($M=$ score was $2,30$, $S.D.=0,20$) $F(1,41)=4,74$ $p<0,05$. There were no significant differences regarding Maslach Burnout Inventory. Mean scores of burnout were: emotional exhaustion: $M=2,42$, depersonalization: $M=1,80$, personal accomplishment: $M=4,21$. A strong positive correlation was observed between the state anxiety and the burnout-emotional exhaustion (EE) ($r=0,89$, $p<0,01$).

Conclusions: According to the results of this study it can be suggested that social workers and nurses have low level of burnout. However, nurses scoring higher on state anxiety that is linked to emotional exhaustion in both groups. Research literature indicates, that state anxiety is a strong predictor for burnout and medical errors (Smith et al., 2001). It is important to examine the relationship between state anxiety and burnout. Recent research suggests that training of any form that is delivered to nurses, social workers and in general to health care professionals can help substantially to reduce symptoms of stress and anxiety that are linked to burnout (Botti et al., 2011).

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P035

Using meloxicam as a treatment for low back pain in elderly people

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Background: Meloxicam is a nonsteroidal anti-inflammatory drug with analgesic and fever reducer effects. It is a derivative of oxicam, closely related to piroxicam, and falls in the enolic acid group of NSAIDs. Low back pain is one of the most frequent health problems in the elderly affecting 8 out of 10 people at some point during their lives.

Materials and methods: The aim of the study was to investigate and to evaluate the clinical effects, the safety and the efficacy, of meloxicam when administrated for low back pain in elderly people

Results: This retrospective study included 30 elderly patients (> 65 years old) suffering from low back pain with radiculopathy caused by lumbar disc syndrome, without any previous treatment, and who did not need surgery. Thirty elderly patients, 10 female (33,3%), 20 male (66,7%), mean age 73 years, range 65-89 years have been studied. Meloxicam therapy was conducted using intramuscular injections of 15 mg daily during 7 days with following oral drug intake -1 tablet daily- during other 7 days. Total treatment duration was 2 weeks. This treatment regime proved to be effective. The subjective meloxicam efficacy was the following: moderate- 5 cases, 16,6%. good-10 cases, 33,3%, very good 15 cases, 50%.

Conclusions: This study therefore demonstrates that meloxicam 15 mg i.v. followed by oral therapy seems to be safe, well tolerated and efficacious in the treatment of low back pain in elderly people. Further studies were warranted.

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P036

Pregabalin as a treatment for chronic low back pain -Preliminary study

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Background: Pregabalin is an anticonvulsant drug used for a variety of disorders such as neuropathic pain, partial seizures, generalized anxiety disorder and others. It was designed as a more potent successor to gabapentin. Recent studies have shown that pregabalin is effective at treating chronic pain in disorders such as fibromyalgia and spinal cord injury. Chronic low back pain is less common than acute back pain, but it is still very widespread. Chronic low back pain is measured by duration, pain that persists for more than three months is considered chronic. It is often progressive and the cause can be difficult to determine.

Aim - The aim of the study was to investigate and to evaluate the clinical effects, the safety and the efficacy, of pregabalin administered for chronic low back pain.

Materials and methods: This retrospective study included 20 patients suffering from chronic low back pain with radiculopathy caused by lumbar disc syndrome, without any previous treatment, and who did not need surgery. 20 patients, 10 female -50% - 10 male -50%, mean age 53 years, range 45-64 years. Pregabalin therapy was conducted using oral drug intake of 150 mg daily during 21 days - 3 weeks-owing oral drug intake. Total treatment duration was 3 weeks. This treatment regime proved to be effective. The subjective pregabalin efficacy was the following: moderate- 5 cases, 25%. good-5cases, 25%. very good 10 cases, 50%.

Conclusions: This study therefore demonstrates that pregabalin oral therapy seems to be safe, well tolerated and efficacious in the treatment of chronic low back pain. Further studies were warranted.

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P037

Conservative treatment of low back pain, in elderly people using epidural injection of steroids

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Background: Epidural injection of steroids is one of the most commonly used interventions in managing chronic spinal pain.

The aim of our study is to evaluate the results of the conservative treatment of diseases causing low back, with epidural injection of steroids in elderly people (>65 years).

Materials and methods: During a 5 years period, 200 elderly patients (143 men and 57 women) were treated conservatively with epidural injection of steroids.

The average of age was 74 (with breadth 65-95 years old).

The 92% (184) of them had other problems of health like:

Diabetes, hypertension, atherosclerosis, lipedemia, circulatory problems, respiratory diseases, thyroids, cerebrovascular diseases, dementia etc.

All patients (200,100%) had failed previous conservative treatment.

Mean follow up was 24 months (range 12-36 months).

Results: 1. Immediately after injection, 116 patients- 58% reported various degree of relief from leg and back pain. 2. At the last follow up examination 72% (144) of patients were asymptomatic, 19% (38) had no change in preinjection radicular symptoms and 9% (18) had various degree of relief.

Conclusions: Our results, compared to the literature, show that the previously type of medication is a reliable conservative treatment especially for elderly people.

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P038

Transportation-related psychiatric fatalities in the Paris metro

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Background: Mass transportation systems within metropolitan areas are actually increasingly

vulnerable to two categories of security incidents uniquely associated with subways: pushing other passengers onto the tracks and suicides by throwing oneself onto the path of oncoming trains.

Materials and methods: A structured review of the international literature is conducted in order to examine the vulnerability of subways to such security incidents and possible management strategies.

Results: Most of the perpetrators are mentally ill, homeless people, with a history of in-patient psychiatric care. "Community-policing" relying on the visibility of the police and video-surveillance are found to be effective means of "situational crime prevention" in general, but not in the aforementioned incidents. In Paris metro, the ultimate management strategies include subtle environmental modifications in stations, trains, staff practices and procedures.

Conclusions: Rapid urban growth may further strain already overburdened and aging subway systems, potentially increasing public health challenges that need to be addressed in order to maintain the sustainability of community-based transport services. Technical considerations should nevertheless not be used to reduce the visibility of the mentally ill. Since subway-related fatalities are produced by people with considerable prior contact with the mental health system, we can reasonably conclude that they have numerous unmet service needs. Further research is needed on the growing problem of homelessness as an unintended consequence of the deinstitutionalization policy.

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P039

The boundary between grief and affective disorders

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Background: Reactions to loss experiences have been in the past an exclusion from the definition of mental disorders in the DSM system. Since the DSM is the leading guide for practitioners, recent changes leading to its inclusion are expected to have far-reaching impact.

Materials and methods: A bibliographic review of the last two editions of the DSM classification system and of recent international publications is conducted in order to identify unresolved issues that bear on a possible pathologization of grief.

Results: In DSM III, grief was classified as a culturally acceptable response to loss. The role of the socio-cultural context with respect to grief experiences is no longer considered. The boundary between Major Depressive Episode (MDE) and grief in DSM-IV could be interpreted as stating that grief persistent beyond two months following the loss merits inclusion within the diagnostic category of MDE. Clinical practice and bibliography univocally accept that grieving for most people persists far beyond this period.

Conclusions: Differences between DSM III and DSM IV reflect a gradual integration of grief within the existing diagnostic categorization system of affective disorders. Before labelling grief as

a mental disorder within the framework of depressive disorders, careful consideration should be given to clinical practice and bibliography pointing out that deviations from normal grief are distinct from MDE. Comparison with the overdiagnosis of affective disorders since their conceptualization as a spectrum occurring on a continuum gives cause for serious concern, especially since pathologizing grief entails discounting the value of a necessary emotional process.

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P040

Munchausen's Syndrome By Proxy (MSBP): Clinical and legal issues in dealing with atypical forms of child abuse

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Background: MSBP refers to persistently fabricated symptoms on behalf of another, purposefully causing physicians to identify that person as ill. MSBP attracts extensive medical attention, typically involving ongoing and pervasive medical procedures on preverbal children. Due to the clandestine nature of MSBP, the truth typically surfaces only after a physician repeatedly attempts to reconcile reported symptoms with applied diagnoses.

Materials and methods: Our bibliographic review will focus on the profile of MSBP mother overly involved with their child's medical care, their attachment to their attending physicians, the most commonly fabricated medical conditions and the gradual increase in the number of reported MSBP cases and law suits.

Results: In MSBP cases, the foundation of the doctor-patient relationship built on trust and disclosure collapses into trickery and deceit. In nearly all reported cases, the mother is the perpetrator of the child's illness. Its inconsistent and unusual patterns are early indications of MSBP. Without concrete guidelines, the medical community increasingly faces legal entanglements. Effective psycho-educational training will best help physicians to address comprehensively compulsively abusive, attention-seeking MSBP parents.

Conclusions: The medical and legal communities must develop a coherent set of procedural guidelines for dealing with MSBP cases and consequences. Physician's freedom to adopt a more proactive approach without fear of parental retaliatory legal action best preserves the child's interest and the physician's social and professional responsibility.

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P041

Pediatric Obsessive-Compulsive Disorder: A Review of treatment guidelines

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Background: Pediatric Obsessive-Compulsive Disorder (OCD) is a chronic impairing neuropsychiatric disorder that affects 1%-2% of children and adolescents. Concerning the etiology of the disorder studies suggest a dysfunction in the cortico-striato-thalamocortical loops which is supposed to be of particular importance. Moreover studies indicate that abnormal brain serotonin metabolism is a key factor in the pathophysiology of OCD. In pediatric OCD the lifetime comorbidity rates approach 70% and differentiates the responsiveness to treatment. Specifically comorbid conduct disorders, tic disorders and pervasive developmental symptom disorders moderate treatment response.

Materials and methods: A literature review related to the treatment guidelines for pediatric OCD was conducted using several databases.

Results: The two more empirically supported interventions for pediatric OCD are cognitive-behavioral therapy (CBT) alone or in combination with pharmacotherapy with a selective serotonin reuptake inhibitor (SSRI). The Pediatric Obsessive-Compulsive Disorder Treatment Study indicates that CBT should be the first-line choice for mild to moderate cases, while most severe cases need a combination therapy with SSRIs and CBT. For treatment-resistant cases, adult studies suggest augmentation strategies with (atypical) neuroleptics. Surprisingly there is no controlled data in child psychiatry literature concerning the treatment guidelines of the persistent types of OCD symptoms.

Conclusions: In order to evaluate the most effective treatment approach strategy in pediatric OCD, it is critical to assess carefully the severity and the type of the symptoms as well as the existing psychiatric comorbidity. Moreover the study of the existing literature suggests that more research is needed to establish the role of augmentation strategies in the treatment resistant cases.

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P042

Impact of cochlear implantation on anxiety and depression in mothers of children with sensory-neural hearing loss

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Background: Beneficial effects of cochlear implant on behavioral and psychosocial development of children with profound hearing loss were recognized. It is possible that the cochlear implantation may decrease the anxiety and depression for the family via the psychological stress reduction. The aim of our study is to determine the effect of cochlear implantation on anxiety and depression in mothers of children with cochlear implant.

Materials and methods: In a cohort study, 59 mothers of children with profound sensory-neural hearing loss whom admitted to the Baqiyatallah hospital during 2009-2010 were enrolled. The mother sampled systematically and demographic information is obtained by checklist and depression and anxiety before and 12 months after implantation were assessed by beck (depression and anxiety) inventory.

Results: The mean age of children and mothers were 1.50 ± 0.55 and 29.42 ± 4.39 , respectively. Mean anxiety scores in mothers before implantation were more than the mothers of cochlear implant recipients (15.65 ± 10.29 vs. 10.48 ± 8.91) also mean depression scores decreased after implantation (18.94 ± 8.95 vs. 13.14 ± 8.99). This difference was significant in depression and anxiety (P.value= 0.001 in both item).

Conclusions: It seems that cochlear implant use leads to decrease of depression and anxiety but still high prevalence of these disorders than the normal population. Psychological complications most be considered substantially in mothers of children with hearing loss.

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P043

Nurses' experiences regarding working in the psychiatric wards and its physical outcomes

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Background: The nurses have a significant role in the treatment and care of the patients with mental and psychiatric disorders. They encounter complications and various phenomena of the psychiatric settings such as physical strain. It is essential to have a deep understanding about nurses' attitudes, perceptions, emotions and beliefs about physical results in the psychiatric ward. This study was conducted to access nurses' experiences regarding physical outcomes of working in psychiatric settings as an important step in improving psychiatric nursing practice in the psychiatric wards.

Materials and methods: This is a qualitative study with phenomenology method. Participants of this research were selected through proposal sampling. They were nurses who were employed in psychiatric wards of 4 hospitals in Isfahan, Iran. Data were gathered by in depth interviews. Every interview was recorded in a tape. Each interview lasted for 20 to 90 minutes (M=49). Data analysis was done by Cloazzi method.

Results: Study results were summerized in 2 core concepts: physical strain and workload and 4 subconcepts: physical injury, fatigue, environment management and care provision. Inadequate experience and knowledge in the psychiatric team causes inevitable physical strain.

Conclusions: Having an insight toward nurses' experiences reveals nurses' needs and can help them to have a better picture of themselves. Thus this is an important step in improving psychiatric nursing practice.

Having a deep understanding from nurses' experiences about physical outcomes of psychiatric wards, has a significant and fundamental influence on quality of care given to the patients with psychiatric and mental disorders. It helps not only nurses, but also all psychiatric team to decrease physical strain.

This study hopes to help all people participating in providing care for the patients with mental and psychiatric disorders, inviting them to improve practice and to evaluate this process.

Improvement of professional competence is fulfilled through decreasing the physical strain in the psychiatric wards.

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P044

Evaluation of the interaction between histamine and α 2-adrenergic system in the CA1 region of rat hippocampus on spatial memory

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Background: Hippocampus has a key role in learning and memory and, its impairments especially on the CA1 region leads to important spatial learning disorders. Histamine is an essential neuromodular and Neurotransmitter in central neural system. Histaminergic systems regulate neural and behavioral functions such as learning and memory. The tuberomamillary nucleus on posterior side of Hypothalamus contains histaminergic neurons and also a broad noradrenergic network. In the present study, we have investigated the effects and the interaction of the α 2-adrenoceptors and histamine in the CA1 region of the hippocampus using the Morris water maze (MWM) test of spatial memory.

Materials and methods: Male wistar rats cannulated in their CA1 region received bilateral injections of different doses of histamine (0.01, 0.025, 0.1 and 0.5 μ g/rat), clonidine (0.1, 0.2, 0.5 and 0.05 μ g/rat). For histamine, the doses, 0.01 and 0.025 μ g/rat and for clonidine 0.1 μ g/rat were ineffective. The interaction of clonidine (0.1 μ g/rat) with histamine (0.025 and 0.01 μ g/rat) had no effect on learning memory. Animals were subjected to 5 days of training in the MWM; 4 days with the invisible platform to test spatial learning and the 5th day with the visible platform to test motivation and sensorimotor coordination. The drugs were administered 5 minutes before training each day.

Results: The results show that histamine leads to a dose dependent decrease in escape latency and traveled distance, and clonidine, leads to an increase in both escape latency and traveled distance. Bilateral injection of highest doses of the clonidine (0.5 μ g/rat) impair spatial memory conversely lowest dose (0.05 μ g/rat) lead to improvement in spatial learning and the dose of (0.1 μ g/rat) was ineffective dose. Coadministration of ineffective dose of clonidine (0.1 μ g/rat) with histamine (0.01 μ g/rat) were ineffective, but the (0.1 μ g/rat) dose of clonidine with histamine (0.025 μ g/rat) showed significant difference in traveled distance.

Conclusions: In conclusion, it seems that histaminergic and Adrenergic systems play an important role in modulation of spatial learning in CA1 region and also their effects are opposite.

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P045

Effect of communication skill training using group psychoeducation method on the stress level of psychiatry ward nurses

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Background: Nursing is a dynamic and supportive job, with the main role of taking care of patients. Maintaining appropriate communication of the nurse with the patients is particularly known as the main core of care in mental health. However, in spite of the importance of providing communication, one of the main sources of stress in nurses of psychiatry wards is communication with the patients. Some important reasons for inappropriate relationship between the nurse and patient can be lack of necessary skills to communicate with patients because of insufficient training. Although training communication skills is an important part of the education of medical and para-medical students, in recent studies it has been demonstrated that the communication skills learned in theoretical courses would not necessarily be transferred to clinical settings, and providing training in clinical settings is a must. The present study was carried out to determine the effect of training communication skills using psychoeducation method on the stress level of nurses of psychiatry wards.

Materials and methods: This is a quasi-experimental study. The participants were 45 nurses; 23 and 22 in the experiment and control groups, respectively, working in psychiatry wards. The sampling was carried out by the census method, and then the participants were randomly assigned to the two groups of experiment and control, using random number table. The two groups filled out the demographic data form and also the questionnaire on nurses' occupational stress, designed by the researcher. The questionnaire was filled out three times; before, immediately after, and one month after the training. Training of communication skills was carried out using group psychoeducation method, in six sessions, each lasted for 1.5 hours

Results: The findings indicated that before the intervention, the members of the two groups had a high level of occupational stress. Immediately after the training, the stress level of the experiment group decreased significantly, and the decrease was sustained for the following one month.

Conclusions: Training communicative skills using group psychoeducation method can decrease the occupational stress of psychiatry ward nurses.

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P046

Mortality in Depressed Elderly with Chronic Physical Illness: A Randomized Study to Explore Different Factors

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Background: It is well documented that there is excess mortality in depressed subjects, although it is not confirmed in all studies. Furthermore, it has been hypothesized that mortality rates in depressed men are higher than in depressed women. Finally, it is not clear if the increased mortality rates exist only in major depression or also in sub clinical depression. Improvement of the mental health (1) of the patient by the care-givers is of prime importance (2) rather than antidepressant medications which often produce cancer (3). Present study investigate different factors associated with the mortality in depressed elderly with chronic physical illness.

Materials and methods: The data of this study were obtained between April 2003 and March 2010. A total of 112 individuals aged 65-88 years, resided in community in Howrah and Kolkata were the subjects of this study. The criteria of the study includes, 1) Mini Mental State Examination (MMSE) to identify the presence of clinical dementia, 2) ability to perform instrumental activities of daily living (IADALs) using OARS-scale, 3) memory impairment assessed with the item 14 of the Geriatric Depression scale, 4) causes of mortality using a novel proportional factor analytic model (Manna Security Scale or MSC) on the basis of chronic diseases, dementia, physical inability, death of a close person loss of property, poverty, lack of social security, lack of family bonding, poor care-giving and faulty care-giving (10 X 10 = 100 point scale).

Results: There were 43 deaths (21 female and 22 male) occurring during this period. No incidence of suicide was taken. There were 3 accidental deaths (all female) due to burn during worshipping God. No incidence of murder was noted. Out of the 43 natural deaths almost 50% of the causes of mortality was noted when MSC rating is 50 or more irrespective mental or physical disorders. This includes poor and faulty role of the care-givers (choice of wrong medicine). Rest of the mortality was due to severe and incurable health hazards like cancer.

Conclusions: Presents study confers that 50% of the elderly death might be considered as natural death due to senility or incurable diseases. The causes of the other deaths might be due to severe mental shock, personal carelessness, and negligence of the caregivers. It can be granted that at least 25% of the mortality can be avoided providing with proper care and social bonding.

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Relatives, friends and care-givers of the subjects of this study.

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P047**Elevated homocysteine levels in schizophrenia irrespective of MTHFR and COMT polymorphisms**

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Background: Patients with schizophrenia demonstrate increased homocysteine plasma levels. We aimed to study the relationship of homocysteine with schizophrenia, after controlling for possible confounding factors. We particularly focused on COMT and MTHFR genetic polymorphisms.

Materials and methods: 90 patients with chronic schizophrenia (58 males and 32 females; mean age:42.9, SD=10 years) were recruited. 55 healthy volunteers (controls; 30 males and 25 females; mean age: 43.69, SD=8.32 years) were also recruited from the hospital's staff. Diagnosis, MTHFR and COMT polymorphisms, B12 and folate levels, smoking status, age and gender were used as possible explanatory variables of homocysteine values in linear (concentrations) and logistic (normal vs. pathological homocysteine, upper cut-off: 13.9 $\mu\text{mol/l}$) regression modeling.

Results: The effect of diagnosis on homocysteine was significant. Patients had higher plasma homocysteine than controls ($B=3.45$; $CI=0.62, 6.28$; $t=2.41$, $df=130$, $p=0.017$). Men demonstrated higher homocysteine than women ($B=-3.14$; $CI=-6.01, -0.28$; $t=-2.17$; $df=130$; $p=0.032$). Increasing homocysteine was associated with decreasing folate ($B=-0.344$; $CI-0.62, -0.07$; $t=-2.5$; $df=130$; $p=0.014$) and a positive smoking status ($B=3.49$; $CI=0.38, 6.60$; $t=2.22$; $df=130$; $p=0.028$). The effect of the MTHFR T-allele on homocysteine was nearly significant ($t=1.93$; $df=130$; $p=0.056$), but COMT polymorphisms were not associated with homocysteine. Schizophrenia was a significant predictor of pathological homocysteine ($B=1.02$; $SE=0.49$; $Wald=4.24$; $df=1$; $p=0.04$). Increasing age and decreasing folate levels ($B=0.07$; $SE=0.025$; $Wald=6.63$; $df=1$; $p=0.01$ and $B=-0.036$; $SE=0.1$; $Wald=13.35$; $df=1$; $p<0.001$, respectively), but not genetic polymorphisms predicted pathological homocysteine.

Conclusions: Schizophrenia is associated with increased homocysteine concentrations independently of confounding factors which include polymorphisms of the MTHFR and COMT genes.

Acknowledgements:

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P048

In vitro study of the effects of atypical antipsychotics on antioxidant enzyme activities

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Background: Involvement of oxidative stress in the pathogenesis of schizophrenia has been reported. However, studies on animals suggest that antipsychotics can affect neuronal structure and function and induce oxidative stress by altering activity of antioxidant defence (ADS) enzymes and subsequent elimination of reactive oxygen species (ROS).

Materials and methods: The following medications were used: quetiapine, olanzapine, aripiprazole, amisulpride, clozapine, ziprasidone and sertindole.

The effect of above antipsychotic drugs on ADS enzyme activities in human erythrocytes was investigated in vitro after 1 hour incubation at 37°C of fresh whole blood without (control) or with recommended maximum daily dose of antipsychotic drug for mono-therapy (in milligrams per litre of blood). After incubation period erythrocytes and plasma were immediately separated by centrifugation and ADS enzyme activities were measured in erythrocytes.

Aliquots of three-times washed erythrocytes with saline were hemolysed in ice-cold distilled water and ADS enzyme activities were measured in lysate.

Results: Our results showed that sertindole decreases activity of catalase comparing to control non-treated erythrocytes. Moreover, in sertindole treated erythrocytes negative correlation between superoxide dismutase and glutathione peroxidase activities was found. Moreover, results showed that aripiprazole and quetiapine also had direct effects on anti-oxidative enzymes in human erythrocytes indicating different ROS elimination and subsequent free radical disbalance in chronically medicated patients.

Conclusions: Our results that aripiprazole and quetiapine increases SOD1 activity during incubation in vitro, in comparison with controls and other tested antipsychotic, indicate that second generation antipsychotics from different groups may have sometime similar effect on erythrocytes anti-oxidative defence. Moreover our results may indicate potential molecular mechanism of prorrhythmic sertindole side effect.

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P049

Effects of atypical antipsychotics on activities of enzymes of antioxidant defence system in vitro

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Background: Involvement of oxidative stress in the pathogenesis of schizophrenia has been reported. However, studies on animals suggest that antipsychotics can affect neuronal structure and function and induce oxidative stress by altering activity of antioxidant defence (ADS) enzymes and subsequent elimination of reactive oxygen species (ROS).

Materials and methods: This study was set out to examine impact of atypical antipsychotic drugs: aripiprazole, clozapine, ziprasidone, olanzapine, quetiapine, sertindole and amisulpride on the activity of ADS enzymes in human erythrocytes in vitro after its incubation with blood for 1 hour at 37°C.

Results: Our results showed that sertindole decreases activity of catalase comparing to control non-treated erythrocytes. In sertindole treated erythrocytes negative correlation between superoxide dismutase and glutathione peroxidase activities was found. Moreover, results showed that aripiprazole and quetiapine also had direct effects on anti-oxidative enzymes in human erythrocytes indicating different ROS elimination and subsequent free radical disbalance in chronically medicated patients.

Conclusions: Our results showed that aripiprazole and quetiapine increases SOD1 activity during incubation in vitro, in comparison with controls and other tested antipsychotic, indicate that second generation antipsychotics from different groups may have sometime similar effect on erythrocytes anti-oxidative defence. Moreover results of sertindole activity may contribute to understanding of molecular mechanism of his pro-arrhythmic effects.

Acknowledgements:

This work was funded by the Ministry of Science and Technological Development, Republic of Serbia, grant 173014: "Molecular mechanisms of redox signalling in homeostasis: adaptation and pathology".

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P050

Soft neurological signs and correlation with anti-oxidant defence enzymes in the blood of chlorpromazine-treated schizophrenic male patients

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Background: Schizophrenia is a complex psychiatric disorder characterised by a range of cognitive and psychophysiological deficits. There is strong evidence suggesting the presence of subtle, non-specific, non-localised neurological deficits [“soft neurological signs” (SNS)] in schizophrenia. Involvement of oxidative stress in the pathogenesis of schizophrenia also has been reported. Any connection between these findings might support the neurobiological significance of clinical syndromes of schizophrenia.

Materials and methods: According to the PANSS score patients were divided into two groups: 1) Patients (24 males) with prominent positive symptomatology and minimal negative symptomatology, chlorpromazine-treated (type 1); and 2) patients (22 males) with prominent negative symptomatology and minimal positive symptomatology (type 2). These groups were subdivided according to the level of NES scores (high and low) and both the level and the composition of ADEs were measured in erythrocytes. Group differences were estimated by canonical discriminant analysis.

Results: Positive and negative schizophrenia symptom dimension in patients were significantly separated according to the composition of their neurological evaluation scale (NES) clusters with a major influence of complex motor sequences (CMS) ($p < 0.001$). Cluster CMS strongly swayed the positive correlation found between NES and glutathione reductase (GR) activity in patients with dominant positive symptomatology

Conclusions: Our results indicate differences in the composition of anti-oxidant defence between controls and anti-psychotic treated patients with predominantly positive or negative symptoms with a possible negative feedback influence on the pathological process. It seems that in patients with prominent positive symptomatology conditions that increase the level of ROS are present. Moreover, an increase in ROS could influence the presence of SNS.

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P051

A retrospective, naturalistic study to evaluate the use of the different formulations of quetiapine in clinical practice of inpatients with schizophrenia

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Background: Schizophrenia is a severe and debilitating mental disorder with increased mortality and huge impact on quality of life. Adherence to medication may be crucial to minimize psychotic symptoms, as well as to improve level of functioning and quality of life among these patients. Due to different pharmacokinetic profiles, extended release quetiapine fumarate (quetiapine XR) and immediate release quetiapine fumarate (quetiapine IR) may be used differently in clinical practice. The main objective of this study was to investigate differences in the clinical use of these medications as primary antipsychotic treatment among inpatients with schizophrenia. Secondary objectives included evaluation of patient characteristics, concomitant medication and severity of disease.

Materials and methods: Inpatients with schizophrenia (ICD10 diagnoses F20, F23.1, F23.2, F25) hospitalized with psychotic symptoms at any time during July 1 2009 to September 30 2010 at 14 different sites in Sweden were evaluated for eligibility for the study. Those who had also received at least one dose of quetiapine XR and/or quetiapine IR during hospitalization were included. All patients fulfilling the eligibility criteria were recruited. Primary antipsychotic treatment was defined as a total daily dose of quetiapine XR or quetiapine IR \geq 400 mg. Retrospective data collection from medical records was performed. Categorical variables were compared using a chi-2 test, numeric variable using t-test and number of concomitant medication using a Poisson regression.

Results: One hundred and seventy eight (178) patients were included. Of these, 118 patients used quetiapine XR and 60 patients used quetiapine IR as medication, and 64% of the XR patients compared to 40% of the IR patients had quetiapine as their primary antipsychotic treatment (dose \geq 400 mg) ($p=0.002$). The mean daily dose of quetiapine during hospitalization was 494 mg and 345 mg for the XR and IR groups, respectively ($p=0.001$). Patients with comorbid substance abuse (19%) were more likely to receive quetiapine XR as primary antipsychotic treatment ($p=0.003$). Almost all patients (98%) were treated with one or more concomitant

psychiatric medication. The mean number of concomitant medications used per month were 3.11 in the XR group and 4.24 in the IR group, a difference of 27% ($p=0.04$). Non-adherence was more often reported as a reason for stop of treatment in the IR group (12% vs 3.4%) ($p=0.03$). Although statistically not significant, lower GAF scores, longer duration of hospitalization, and higher use of electro convulsive treatment was noted for patients receiving XR. The XR and IR treatment groups were comparable in terms of demographic data.

Conclusions: In this retrospective study conducted in Sweden, quetiapine XR was more likely than quetiapine IR to be used as primary antipsychotic medication for inpatients diagnosed with schizophrenia. It was used in higher mean daily doses and more commonly among schizophrenic patients with comorbid substance abuse than quetiapine IR.

P052

Effect of age on cognition in chronic schizophrenia

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Background: Patients with schizophrenia show prominent cognitive impairments but there is evidence that they do not experience a progressive neuropsychological decline after the initial onset of their illness. We investigated the effects of age and diagnosis on cognition in a sample of people with chronic schizophrenia versus a group of healthy controls.

Materials and methods: 121 patients with chronic schizophrenia (77 males and 44 females; mean age: 42.36, SD=9.99 years) and 72 healthy volunteers (controls; 36 males and 36 females; mean age: 43.38, SD=8.32 years) were assessed in neuropsychological tests of motor speed (MOT), pattern and spatial recognition memory (PRM and SRM), spatial working memory (SWM), cognitive flexibility (IEDS) and planning (SOC) from the Cambridge Neuropsychological Test Automated Battery (CANTAB). The effects of age, diagnosis and age X diagnosis interaction on cognitive performance were examined using hierarchical linear regression modeling, controlling for gender and education.

Results: The age X diagnosis interaction was not found significant in any cognitive domain. Increasing age predicted worse performance on MOT ($B=8.91$; $CI=0.7, 17.11$; $t=2.14$; $df=183$; $p=0.033$), PRM ($B=-0.23$; $CI=-0.46, -0.01$; $t=-2.02$; $df=184$; $p=0.045$), SRM ($B=-0.29$; $CI=-0.48, -0.1$; $t=-0.19$; $df=184$; $p=0.003$), SWM errors ($B=0.47$; $CI=0.16, 0.77$; $t=3.03$; $df=173$; $p=0.003$) and SOC problems solved in minimum moves ($B=-0.03$; $CI=-0.06, 0$; $t=-1.98$; $df=168$, $p=0.05$), independently of diagnosis. The effect of age on IEDS was not significant. Patients with schizophrenia had significantly worse performance compared with controls in all cognitive tasks.

Conclusions: Although patients with schizophrenia performed worse on cognitive tasks than healthy controls, they showed similar age-related decrements in cognition. Our results suggest that individuals with schizophrenia do not experience greater age-related decreases in cognition than healthy controls.

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P053

Treatment of ICU Delirium

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Background: Delirium is commonly described in critically ill patients as 1 factor contributing to increased length of intensive care unit and hospital stay, secondary complications, and increased mortality. Haloperidol has traditionally been prescribed as the primary agent of choice for the treatment of delirium in critically ill patients. Clinicians have been challenged to consider alternative agents due to adverse effects such as extrapyramidal symptoms, QTc prolongation, and possible torsades de pointes with haloperidol use[1]. Aim of this study is the review of the literature via a MEDLINE search

Materials and methods: MEDLINE search and bibliographic search of the English-language literature.

Results: The prevalence of delirium in the Intensive Care Unit (ICU) is reported to vary from 20 to 80 %. Delirium in the ICU is not only a frightening experience for the patient and his or her family, but also a challenge for the nursing staff and physicians taking care of the patient. Furthermore, it is also associated with worse outcome, prolonged hospitalisation, increased costs, long-term cognitive impairment and higher mortality rates. Thus, strategies to prevent ICU-delirium in addition to the early diagnosis and treatment of delirium are important. Key factors are the prevention and management of common risk factors, such as avoiding overzealous sedation and analgesia and creating an environment that enhances reintegration. Once delirium is diagnosed, treatment consists of the use of typical and atypical antipsychotics. Haloperidol is still the drug of choice for the treatment of delirium and can be given intravenously in incremental doses of 1 to 2 to 5 (to 10) mg every 15 - 20 minutes[2].

Evidence suggests that risperidone, olanzapine and quetiapine are as efficacious as haloperidol in the treatment of delirium but have fewer side effects[3]. Additionally, recent case series provide an initial effort to explore a possible role for quetiapine in the management of refractory hyperactive and mixed ICU delirium[4]. Furthermore, Quetiapine added to as-needed haloperidol results in faster delirium resolution, less agitation, and a greater rate of transfer to home or rehabilitation [5].

Conclusions: Published prospective, randomized clinical trials evaluating antipsychotic therapy for preventing or treating delirium in the ICU are few in number.

The conclusions that can be drawn from them are limited.

Future studies should evaluate the effect of quetiapine on mortality, resource utilization, post-intensive care unit cognition, and dependency after discharge in a broader group of patients.

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P054

Sleep disturbances in the critically ill patients

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Background: Sleep disturbances and fatigue are significant problems for critically ill patients. Existing sleep disorders, underlying medical/surgical conditions, environmental factors, stress, medications, and other treatments all contribute to a patient's inability to sleep [1].

Aim of this study is the review of the literature via a MEDLINE search

Materials and methods: MEDLINE search and bibliographic search of the English-language literature

Results: Sleep disturbance and debilitating fatigue that originate during acute illness may continue months after discharge from intensive care units (ICUs). If these issues are unrecognized, lack of treatment may contribute to chronic sleep problems, impaired quality of life, and incomplete rehabilitation [1].

Delirium, an organ dysfunction that affects outcome of the critically ill patients, is characterized by an acute onset of impaired cognitive function, visual hallucinations, delusions, and illusions. These symptoms resemble the hypnagogic hallucinations and wakeful dreams seen in patients with neurological degenerative disorders and suffering of disorders of rapid eye movement (REM) sleep [2].

Sleep disruption and the development of delirium are frequently related, both because of sleep scarcity and inappropriate dosing with sedatives. Delirium is strongly related to increased ICU morbidity and mortality, thus the resolution of sleep disruption could significantly contribute to improved ICU outcomes [3].

Conclusions: A multidisciplinary approach that incorporates assessment of sleep disturbances and fatigue, environmental controls, appropriate pharmacologic management, and educational and behavioral interventions is necessary to reduce the impact of sleep disturbances and fatigue in ICU patients [1].

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P055

Posttraumatic stress disorder in general intensive care unit survivors

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Background: The relevance of the post-traumatic stress disorder (PTSD) concept to medically ill patients is becoming increasingly clear. Some medical conditions (e.g., rheumatologic diseases) are likely related to PTSD indirectly. Others, such as myocardial infarction and critical illness/intensive care unit (ICU) treatment, are likely traumatic stressors. Importantly, PTSD seems to be a potent risk factor for fatal and nonfatal cardiac events. Risk factors for medical illness-related PTSD appear similar to risk factors for PTSD in general. PTSD is particularly common among survivors of critical illness and ICU treatment. [1]

Aim of this study is the review of the literature via a MEDLINE search

Materials and methods: MEDLINE search and bibliographic search of the English-language literature

Results: Surviving a critical illness is inherently stressful, and survivors are frequently faced with complicated recoveries. Recently, there has been increased interest in the mental health of critical illness survivors [2].

Post-traumatic stress disorder (PTSD) is a potentially serious psychiatric disorder that has traditionally been associated with traumatic stressors such as participation in combat, violent assault, and survival of natural disasters. Recently, investigators have reported that the experience of critical illness can also lead to PTSD, although details of the association between critical illness and PTSD remain unclear [3].

Conclusions: Exact PTSD prevalence rates cannot be determined due to methodological limitations such as selection bias, loss to follow-up, and the wide use of screening (as opposed to diagnostic) instruments. In general, the high prevalence rates reported in the literature are likely to be overestimates due to the limitations of the investigations conducted to date. Although PTSD may be a serious problem in some survivors of critical illness, data on the whole population are inconclusive. Because the magnitude of the problem posed by PTSD in survivors of critical illness is unknown, there remains a pressing need for larger and more methodologically rigorous investigations of PTSD in ICU survivors[3].

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P056

Burnout Syndrome and Post-Traumatic Stress Disorder in ICU nurses

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Background: The environment of the Intensive care unit (ICU) is stressful and demanding and the nursing staff are repeatedly exposed to work related stresses ,e.g.performing cardiopulmonary resuscitation, postmortem care, prolonging life artificially in critical ill patients [1]. The psychological effects on nurses as a result working in such a stressfull environment is the Burnout syndrome (BOS) and the Post -Traumatic Stress Disorder (PTSD)

Aim of this study is the review of the literature via a MEDLINE search

Materials and methods: MEDLINE search and bibliographic search of the English-language literature

Results: BOS has been described as an inability to cope with emotional stress and its clinical syptoms are tiredness, headaches, eating problems , insomnia, iiritability, emotional instability, rigidity in relationship with others. Severe burnout symptoms among critical care nurses are common and some of these symptoms are severe and associated with four main domains: personal characteristics, organizational factors, quality of working relations and en-of-life related factors [2].

Another common disorder found in the critical care nurses is PTSD. ICU nurses have symptoms consistent with possible anxiety disorders and depression. Commonly experienced PTSD symptoms in ICU nursing staff are sleep problems and being annoyed or angry, irritable and agitated[1].

Those findings suggest that strategies of empowerment must be developed in the ICU. A higher sense of psychological empowerment can decrease stress, PTSD and burnout symptoms. Those strategies have to focus on personal knowledge and skills of the nursing staff and also support a good atmosphere and teamwork in the ICU[3].

Conclusions: BOS and PTSD are frequent in the ICU nurses. Empowerment strategies have to be implemented in the ICU in order to help the nursing staff to copy with these symptoms. An important area of future research is to determine whether these symptoms influence the quality of care provided by the nursing staff to patients and their families[4].

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P057**The effects of heroin use in patients with acute asthma exacerbations**

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Background: The use of heroin has been associated with asthma exacerbations. However, the magnitude of this effect has not been adequately described. The purpose of this minireview is to examine the association between heroin use and asthma severity [1].

Materials and methods: MEDLINE search and bibliographic search of the English-language literature

Results: Heroin insufflation is a common trigger for asthma symptoms among patients requiring ICU admission for asthma in an urban public hospital. This phenomenon has occurred sporadically since March 1997 and may have been operative prior to that date. In the first 6 months of 1999, the majority of persons (13 of 23 patients) admitted with severe asthma to the ICU gave a clear history that heroin insufflation precipitated asthma exacerbations generally, and in some cases, clearly precipitated the symptoms that led to the ICU admission. Detailed histories suggest that heroin use frequently resulted in less severe symptoms that were managed at home. The high rate of UDS positivity for opiates confirms the history of recent use in many patients, and strengthens the temporal linkage between heroin use and severe symptoms. These temporal associations, coupled with the finding that heroin use was more commonly identified in ICU patients with asthma than in a comparison group with DKA, support a relationship between heroin insufflation and asthma [2].

Conclusions: Heroin and cocaine use are common among adult asthmatic patients admitted to an inner-city hospital. Both cocaine and heroin are significantly associated with the need for intubation. Based on these findings, it may be prudent to screen adults with asthma presenting to an urban emergency department for cocaine and heroin use [1].

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P058**Common mental disorders in primary care**

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Background: The prevalence of mental disorders in primary health care is a central since there

is evidence that these disorders can influence medical practice and mislead general practitioners. It is common mental disorders to manifest themselves as physical complaints rather as psychological ones. Early identification of such disorders is critical since it would lead to better prognosis and lower use of resources[1].

Aim of this study is the review of the literature via a MEDLINE search

Materials and methods: Bibliographic search of the English-language literature

Results: The most common mental disorders found in primary care are: mood disorders (major depression and dysthymia), anxiety disorders (generalized anxiety disorder), somatoform disorders and alcohol abuse/dependence. The studies show also important rate of comorbidity between these disorders[1], [2].

There is also comorbidity between common mental disorders and somatic diseases: depressive and anxiety disorders are higher among individual that suffer from a somatic disease such as neurological, oncological or liver disease [3]. Dysfunctional attitudes can be also associated with common mental disorders in primary care. They may be a risk factor for the onset of episodes of depression and anxiety [4].

The Primary Care Evaluation of Mental Disorders (PRIME-MD) questionnaire can be a useful diagnostic tool for the general practitioners in primary care settings in order to identify common mental disorders [2].

Conclusions: There is high prevalence and comorbidity of mental disorders in primary care that are also associated with somatic diseases and dysfunctional attitudes. PRIME-MD can be a useful screening tool for mental disorders. We must also focus on the importance of the training of general practitioners in mental health problems.

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P059

Peripheral vascular disease marker is associated with cognitive function, activities of daily living, and gait function

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Background: We assessed marker of peripheral vascular diseases by utilizing the Angle Brachial Index (ABI) in a cohort of Thai community dwelling elderly with memory and mobility problems who were recruited to participate in the day care cognitive and physical rehabilitation study. We explored the association between the ABI index, cognition, activities of daily livings and

vascular risk factor parameters.

Materials and methods: 155 elders who participated in the Day Care Rehabilitation Program at Nhonkaem Health Care Center in Bangkok , Thailand had peripheral vascular disease assessment. The measurement of the ABI involves recording the systolic pressures in the brachial artery at each elbow and systolic pressures in the posterior tibial and the dorsalis pedis arteries at each ankle. A ratio of the ankle systolic pressure in the numerator, over the higher brachial pressure in the denominator was calculated. The ABI is calculated for each leg separately. The ABI is graded into normal (score 1.00 to 1.29), borderline peripheral vascular disease (PAD, 0.91-0.99), mild to moderate PAD (0.41 to 0.90), and severe PAD (0.40 or less). Cognitive assessment, daily function assessment (utilizing Thai Activities of Daily Living Scale(Thai ADL), range 0-26, the higher the score, the poorer performance is), and gait were evaluated before starting the day care rehabilitation program. Fasting blood was drawn for biochemistry evaluation of vascular risk factors, creatinine, and free thyroxine. Blood pressure was measured after 2 hours of sitting & resting. Weight, height, and waist was measured and the body mass index (BMI) was calculated. Pearson correlation from SPSS15 was used in statistical analysis.

Results: 155 elders who participated in the Day Care Rehabilitation Program at Nhonkaem Health Care Center in Bangkok , Thailand had peripheral vascular disease assessment. The measurement of the ABI involves recording the systolic pressures in the brachial artery at each elbow and systolic pressures in the posterior tibial and the dorsalis pedis arteries at each ankle. A ratio of the ankle systolic pressure in the numerator, over the higher brachial pressure in the denominator was calculated. The ABI is calculated for each leg separately. The ABI is graded into normal (score 1.00 to 1.29), borderline peripheral vascular disease (PAD, 0.91-0.99), mild to moderate PAD (0.41 to 0.90), and severe PAD (0.40 or less). Cognitive assessment, daily function assessment (utilizing Thai Activities of Daily Living Scale(Thai ADL), range 0-26, the higher the score, the poorer performance is), and gait were evaluated before starting the day care rehabilitation program. Fasting blood was drawn for biochemistry evaluation of vascular risk factors, creatinine, and free thyroxine. Blood pressure was measured after 2 hours of sitting & resting. Weight, height, and waist was measured and the body mass index (BMI) was calculated. Pearson correlation from SPSS15 was used in statistical analysis.

Conclusions: The prevalence of PAD assessed by ABI was 9.2% in this community dwelling Thai elder cohort. Low ABI is associated with poor finger tapping test, poor category verbal fluency performance, longer time when performing get up and go , poor Tinetti gait score, and higher systolic blood pressure. Further exploration of vascular lesions in the brain in association to low ABI needs to clarify these findings.

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P060

Self efficacy beliefs of type II diabetes patients in Greece

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Background: Self - efficacy in diabetes management is a crucial area of diabetes comprehensive care. Increased self- efficacy has been positively correlated with the performance of diabetes self - care activities that are necessary for the prevention of acute and chronic complications and with the achievement of better glucaemic control (Aljasleem et al., 2001, Sarkar et al., 2006, Williams & Bond, 2002) . The aim of the current study was to explore type II diabetes patients' self - efficacy beliefs concerning their ability to manage diabetes and to investigate the relationship between self- efficacy beliefs and demographic and disease - related factors.

Materials and methods: 242 type II diabetes patients on oral anti-diabetic medication were recruited from the Outpatients' Department of 2 public sector , 400-bed hospitals, in an urban area of Athens, Greece. Patients completed a 33 item self - report questionnaire comprising of 2 parts: a. sociodemographic data and brief health history and b. the Diabetes Management Self - Efficacy Scale (Van der Bijl et al., 1999), an instrument that assessed patients' self - efficacy beliefs concerning several diabetes management areas, for example 'nutrition specific and weight", "nutrition general and medical treatment", "physical exercise' and "blood sugar. Descriptive statistics were explored and multiple regression analyses were performed.

Results: The area where lower self - efficacy scores were observed was "specific nutrition and weight", whereas "blood sugar" was the area where higher self-efficacy scores were noted. Years of education and attendance of diabetes education were positively correlated with the sense of self efficacy concerning general nutrition and medical treatment (beta = 0,15, t = 2,20, p < 0,05 and beta = 0,24, t = 3,89, p < 0,001 respectively) whereas medication for depression was negatively correlated (beta = -0,18, t = -2,94, p < 0,01). Age was negatively correlated with the sense of self efficacy concerning physical exercise. (beta = -0,15, t = -2,16, p < 0,05) while years of education and presence of diabetes education were positively correlated (beta = 0,17, t = 2,52, p < 0,05 and beta = 0,13, t = 2,08, p < 0,05 respectively) with it. Attendance of diabetes education was positively correlated (beta = 0,25, t = 4,01, p < 0,001) while presence of depression was negatively correlated (beta = -0,17, t = -2,71, p < 0,01) with the sense of self efficacy concerning blood sugar.

Conclusions: Attendance of diabetes education and years of education were factors positively correlated with self- efficacy beliefs concerning type II diabetes management, whereas medication for depression was negatively correlated with them. Demographic and disease - related factors account for 10% of the variance in self- efficacy beliefs. This finding suggests that the factors that contribute in the formation of self - efficacy beliefs regarding diabetes management remain unexplored.

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P061

Predictors of self care behavior for patients with type 2 diabetes in Greece

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Background: Self-care is an integral part of type II diabetes management and it is necessary for the achievement of adequate metabolic control and for the prevention of acute and chronic diabetes complications. Blood glucose self - monitoring, smoking cessation, adequate physical activity and a balanced diet have been recommended by (ADA, 2011) and (AADE, 2010) as the main self-care behaviors that diabetes education programs should target. The investigation of factors that affect the levels of self-care in type 2 diabetes patients can inform the design and implementation of psycho-educational programs targeting type II diabetes patients. The study aimed to explore the relationship between levels of self-care and predict self-care levels, based on demographic and disease related factors, in type 2 diabetes patients.

Materials and methods: The sample consisted of 342 type II patients on oral antidiabetic medication and/or insulin, recruited from the Outpatients' Department of 2 public sector 400-bed hospitals, in an urban area of Athens, Greece. Participants completed a 27-item self-report questionnaire comprising of two parts: a. sociodemographic data and brief health history and b.the Summary of Diabetes Self Care Activities (Toobert, Hampson & Glasgow, 2000), an instrument that is used to measure levels of self-care across several diabetes self - care domains. Data were analyzed by conducting a series of multiple regression analyses.

Results: Insulin medication, in contrast to pills, was positively correlated with general diet self-care ($\beta = 0.14$, $t=2.57$, $p<0.05$). A negative correlation was observed between age and specific meat avoidance diet self - care ($\beta = 0.12$, $t=2.04$, $p<0.05$), whereas a positive correlation was found between specific meat avoidance diet self - care and attendance of diabetes education ($\beta = 0.12$, $t=2.17$, $p<0.05$). as to blood glucose self - testing, a positive correlation was observed between insulin medication versus oral medication and blood glucose self -testing self-care ($\beta = 0.17$, $t=1.14$, $p<0.01$).No correlation was noted between demographic and disease-related factors and a) specific diet - vegetable consumption b) age c)foot care.

Conclusions: Insulin medication is positively correlated with several aspects of diabetes self-care, which may be explained by factors such as higher perceived disease severity, broader impact of the disease on patients' lives, higher demands upon patients. Attendance of diabetes education can reinforce a healthy diet, a finding that underscores the role of diabetes education in the promotion of self-management. The limited contribution of demographic and disease related factors in self-care levels suggests that chronic disease self-care is complex and multifactorial.

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P062

The effect of foot reflexotherapy on patients' anxiety before CABG surgery

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Background: This study performed with the aim of assessing the effect of foot reflexotherapy on patients' anxiety before CABG surgery in Shahid Chamran Hospital of Isfahan

Materials and methods: This study is a clinical trial. Fifty volunteer patients for coronary artery bypass surgery were selected using simple random sample method and therefore, divided into intervention and control group based on the random numbers list. Therefore, reflexotherapy was conducted for each patient in intervention group for 30 minutes. Patients in control group received usual interventions. Patients' anxiety was measured pre and post foot reflexotherapy and usual interventions in both intervention and control group. Descriptive and inferential statistics methods with SPSS software was applied for data analysis

Results: Patients' anxiety significantly decreased in intervention group in comparison with control group ($P < 0.001$). But no significant changes were observed for control group

Conclusions: The findings of the study show that foot reflexotherapy is a safe, effective, cheap nursing intervention in reducing patients' anxiety before coronary artery bypass surgery.

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P063

Mental health assessment using the PHQ and GHQ-12 as a general screening tool in western Nigeria

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Background: Screening at the community level will provide keys to promoting health and preventing diseases at the community level and serve as the fulcrum for timely detection and intervention. This study aims to assess the prevalence and nature of mental disorder among the

general population using the patient health questionnaire (PHQ). It also compares the use of PHQ and GHQ as general screening tools for mental disorders.

Materials and methods: This community based study is cross sectional in design. Multistage sampling technique was used to obtain a representative sample of the communities. The PHQ and GHQ-12 questionnaires were concurrently administered by health care workers to screen for psychiatric symptoms.

Results: A total of 758 participants took part in the study, 496 (65.4%) of the subjects had a form of psychopathology or the other using PHQ and 143 (18.9%) using GHQ questionnaire ($X^2=20.92, p=0.000$). Three hundred and thirty one subjects (43.7%) met the criteria for Somatoform disorder but 6.0% ever treated at PHC, 269 (35.5%) for depression and 4.8% ever treated, 127 [16.8%] for panic disorder and 5.5% ever treated while 165 (21.8%) for general anxiety and 4.8% ever treated. Predictors of psychopathology were individuals who were Singles [OR=0.64, CI=0.49-0.93] concerns about their health [OR=3.06, CI=2.06-4.56], worried about finance [OR=1.84, CI=1.27-2.67] worried about family life [OR=2.68, C.I.=1.61-4.72] and stress at work [OR=1.16, C.I.=1.06-1.28]

Conclusions: There is a high prevalence of psychopathology at the community level in this African population and few had ever been treated. PHQ as a general screening tool has a higher false positive value compared to GHQ when used by non-doctors. PHQ should be used as an instrument to screen for specific mental disorders rather than a general screening tool for psychiatric morbidity at the community level.

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P064

Increased BDNF serum levels in Alzheimer's disease (AD) and mild cognitive impairment (MCI) patients in north Indian population

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Background: The neurotrophin, brain-derived neurotrophic factor (BDNF) plays a critical role in neuronal survival, synaptic plasticity, and memory. Amnesic Mild Cognitive Impairment (aMCI) is characterized by declined cognitive function and has a high probability of evolving into Alzheimer's disease (AD). The aim of our study was to investigate the serum BDNF levels and

BDNF gene val66met polymorphism in AD, aMCI and controls and determine whether there is any association with cognitive function with in these three groups.

Materials and methods: The present study recruited 63 AD patients, 15 aMCI and 63 age and sex matched healthy controls from outpatient Department of Neurology, All India Institute of Medical Sciences (AIIMS), New Delhi, India. The study was conducted after getting the approval of the local ethics committee. All subjects underwent extensive assessment of cognitive function and serum BDNF levels were measured by Enzyme Linked Immunosorbent Assay (ELISA) and genotyping of BDNF gene Val66Met polymorphism were done by PCR-RFLP method.

Results: Serum BDNF levels in patients with AD (12268.3 ± 7099.9 pg/ml) and in aMCI patients (10780 ± 4184.2 pg/ml) were higher than the levels in controls (9362.833 ± 5883.3). No significant difference in the BDNF levels was found between the three groups. BDNF levels did not significantly correlate with age and MMSE score in AD, aMCI and control subjects. No significant difference was obtained between BDNF genotype and allele distribution between AD patients, aMCI vs controls. Allelic frequency: Chi-square = 3.21; p-value = 0.20 and genotypic frequency: Chi-square = 0.412, p-value = 0.521, d.f = 1 (AD Vs controls); Allelic frequency: frequency: Chi-square = 3.21; p-value = 0.20; genotypic frequency: Chi-square = 1.63, p-value = 0.201, d.f = 1 (aMCI vs controls).

Conclusions: Serum BDNF levels were found increased in AD and aMCI patients, supporting the hypothesis of an up regulation of BDNF in both preclinical (MCI) and clinical stage of AD. No significant association of genetic polymorphism of BDNF gene with the BDNF levels in AD and aMCI patients were found.

P065

Clozapine in relation to borderline personality disorder and aggression: review of the literature

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Background: Suicidal behaviour is reported to occur in up to 84% of patients with borderline personality disorder (BPD). Clozapine is observed to be more effective than other antipsychotics in reducing aggressive and suicidal behaviour in many mental disorders. Low dose atypical antipsychotics are widely used to treat psychosis like symptoms in BPD but there are no clear guidelines for the use of clozapine in the management of BPD when psychotic symptoms are absent.

Materials and methods: The history of a 39 year old woman with BPD, violent and suicidal behaviour and prolonged admissions who was maintained well in the community over the last eight years after she started treatment with clozapine, raised our interest on this topic.

We reviewed 15 and 94 published outcome studies identified in MEDLINE, EMBASE and PsycINFO searches, based on two key variables: clozapine -borderline personality disorder and clozapine -aggression

Results: 1.The efficacy of clozapine on the treatment of mental disorders with challenging behaviour in adults was shown in 40 of the 94 papers. 50% of them were related to schizophrenia and 7.5% to BPD.

2.The superiority of clozapine in the treatment of an aggression disorder in adults was shown on 24 papers, 50% of them focused on schizophrenia and psychosis.

3.80% of the 15 papers regarding clozapine and BPD were literature reviews and case reports, 20% were chart audits, double blind and naturalistic studies.

Conclusions: Despite the limited bibliography on clozapine in the treatment of BPD with aggressive and suicidal behaviour, clinicians still use it when other agents have failed, because of its efficacy in treating aggression, reducing hospital admissions and seclusions as seen in all the available data. The pharmacological mechanism for using clozapine as an anti-aggressive agent remains unclear and all authors underline the need of more evidence based studies.

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P066

Severe hyponatremia in a patient with pneumonia and bronchiectasis whilst on moclobemide and venlafaxine

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Background: Hyponatremia is a potentially serious side effect in older patients on anti-depressants, especially in those with medical co-morbidities [1,2]. Many antidepressants have been shown to be associated with hyponatremia [3,4].

Materials and methods: Case notes review and a semi-structured interview.

Results: We report a case of a 58 year-old gentleman on treatment for depression since 2004. He was initially treated with fluoxetine 20mg without any episodes of hyponatremia and remission was achieved. Medications were ceased.

3 years later, his symptoms recurred. He was trialed on Escitalopram 10mg, Fluoxetine 30mg and Bupropion 150mg between 2007 and 2008. Whilst on Fluoxetine 30mg, he developed hyponatremia of 130mmol/L. Starting late 2008, moclobemide 150mg was prescribed and the sodium levels remained acceptable (134-137 mmol/L).

In April 2011, he presented with syncope and upper respiratory tract symptoms. His sodium level was 122 mmol/L. SIADH (Syndrome of Inappropriate Anti-diuretic Hormone) work up was positive and the cause of his hyponatremia was attributed to pneumonia, poor oral intake and moclobemide. Upon normalization of his sodium levels, Venlafaxine 150mg was started. Eight days later, the patient vomited, became drowsy and sustained a fall. He had severe hyponatremia of 104 mmol/L. SIADH work up was positive and further investigations revealed bronchiectasis.

Conclusions: It is important for practitioners to be aware of the risk of potentially life threatening adverse event of hyponatremia when prescribing antidepressants. Sodium levels should be monitored regularly.

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P067

Performance incentives and job motivation factors among mental health professionals: a qualitative study

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Background: In our era of resource shortages, the lack of explicit policies for human resource management has produced imbalances that threaten the capacity of health care systems to attain their objectives. The aim of this study was to identify important motivational factors according to the views of mental health professionals in two Greek psychiatric hospitals and particularly to determine if these might differ among medical, nursing and administrative staff in terms of improving work performance.

Materials and methods: A previously developed and validated instrument addressing four work-related motivators (job attributes, remuneration, co-workers and achievements) was used[2]. Three categories of health care professionals, doctors (N=28), nurses (N=224) and office workers (N=72) working in two psychiatric hospitals (Thessaloniki and Corfu) participated, and motivation was compared across socio-demographic and occupational variables.

Results: The survey revealed that achievements were ranked first for the entire sample and by professional subgroup ($P < 0.001$) among the four main motivators, followed by remuneration, co-workers, and job attributes. Interestingly, remuneration (and salary in particular) was reported as a significant incentive only for professionals in managerial positions ($P = 0.032$) for the entire sample. The range of reported motivational factors was mixed and within subgroups motivators were varied. The job-attributes and co-workers factor was a significant motivational predictor for nurses in managerial positions, while the most important determining variable in the achievements factor was education, which was positively associated with higher motivation for the entire sample ($P = 0.034$).

Conclusions: In today's economically unstable environment, both monetary and non-monetary incentives are important to motivate health care professionals [3, 4] focusing the attention to management approaches that improve performance, while the economic downturn may present as a specific opportunity for radical innovation within the mental health system[5].

Mental health care professionals tend to be motivated more by intrinsic factors, implying that this should be a target for effective employee motivation, particularly in the public sector.

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P068

Prevalence of dyslipidaemia in patients with mental disorders

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Background: It has been shown that dyslipidaemia, primary and secondary, is a major and treatable cause of atherosclerotic cardiovascular disease [1]. Patients with mental disorders as schizophrenia and bipolar disorders presented a higher prevalence of dyslipidaemia compared with the general population [2].

The aim of this study was to investigate the prevalence of dyslipidaemia in patients with schizophrenia and bipolar disorders, taking into account the role of gender, age and of the duration of treatment with antipsychotics.

Materials and methods: The study included 142 inpatients (76 men and 66 women), with mean (SD) age 29.7 ± 12.8 years, who were tested for lipid levels after a 12 hours fasting. Concerning the psychiatric diagnosis, 86 patients were diagnosed with schizophrenia and 56 with bipolar disorders.

Results: The means (SD) of Total Hol, LDL, HDL and triglycerides were 211.45 ± 42.38 mg/dl, 130.66 ± 30.60 mg/dl, 50.12 ± 15.38 mg/dl and 149.66 ± 78.83 mg/d, respectively. A percentage of 57.7% of the patients had Total Hol > 200 mg/dl. Furthermore, 18.3% had LDL > 160 mg/dl, while 50.7% of the patients had LDL > 130 mg/dl. A percentage of 34.20% of men and 21.20% of women appeared with levels of HDL < 40 mg/dl. The percentage of women with HDL < 50 mg/dl was 54.50%. Also 36.60% of the study population had levels of triglycerides > 150 mg/dl. Regarding the gender factor, women appeared with higher HDL levels than men (t-test, $p = 0.003$). As to the age factor, we found that the group < 40 years had lower levels of Total Hol, LDL and triglycerides, compared to the group > 40 years (Anova test, $p < 0.05$). We also observed a positive correlation between the duration of the antipsychotic treatment and Total Hol (Pearson Correlation, $p < 0.001$, $r = 0.417$), LDL (Pearson correlation, $p = 0.005$, $r = 0.234$) and triglycerides levels (Pearson correlation, $p < 0.001$, $r = 0.393$). No significant differences, regarding the lipid

levels were observed between the diagnostic subgroups ($p > 0.05$).

Conclusions: Our findings suggest that the prevalence of dyslipidaemia in patients with mental disorders is markedly higher compared to the general population [3]. The age and the duration of treatment with antipsychotics seem to be factors contributing to this comorbidity.

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P069

Medication-induced depression in patients with somatic illness

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Background: A wide variety of medications may contribute to the emergence or manifestation of depressive symptoms and disorders. Since depression is a frequent comorbid condition in medically ill patients, it is difficult to determine whether depression accompanying somatic illness is a pure coincidence, is related to the somatic illness itself, or is a consequence of some medication used to treat the given illness. The effects of medications leading to depression may be direct, altering levels of neurotransmitters in the central nervous system, or can be indirect, by causing fatigue, diminished appetite, sedation, or other side effects, leading to subsequent frustration, demoralization, or even a full depressive episode. A large proportion of the adult population, especially the elderly, suffer from somatic illnesses requiring pharmacotherapy, and approximately 10% to 20% of patients with acute cardiac disease, diabetes, renal failure, or cancer suffer from current major depressive disorder, and even more patients have clinically significant, subsyndromal depressive symptoms. Therefore it is important to determine how medications used to treat somatic illness lead to the emergence of depression, and how patients can be screened whether they are at a risk of developing depressive symptoms during pharmacological treatment for somatic illnesses.

Materials and methods: Electronic literature searches were performed. Relevant articles examining the association between medication use and symptoms of depression were selected.

Results: Anticonvulsants (e.g. barbiturates, vigabatrin and topiramate), medications for the treatment of Parkinson's disease (levodopa, amantadine) and migraine headache (flunarizine), beta-blockers (propranolol, metoprolol), anti-infective agents (interferon-alfa, mefloquine), interleukin-2, corticosteroids, gonadotropin-releasing hormone agonists, progestin-releasing implanted contraceptives, isotretinoin, and rimonabant have good evidence in the literature

for causing depressive symptoms.

Conclusions: Medications used for the treatment of somatic illnesses should be applied with caution in patients who are at a high risk for depression, including patients with current or prior depression, positive anamnesis for depression in the family, or possessing depressive or neurotic traits making them more vulnerable to depressogenic effects. Although depression is rarely an absolute contraindication for the use of such medications, several factors should be considered and weighted by clinicians to make the best prescribing decision for a given patient, including the relative potential benefit of the medication on the medical condition, availability of alternative nondepressogenic medications for the treatment of the condition, the patient's personal and family history of depression, and the ability to monitor the patient for depression. It should be kept in mind that several medications may lead to depressive symptoms via idiosyncratic reactions related to the presence of certain genetic polymorphisms and the interaction of these genetic factors with the environmental stressor presenting in the form of the given medication.

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P070

Extended-release quetiapine fumarate (quetiapine XR) versus risperidone in the treatment of depressive symptoms in schizophrenia

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Background: This analysis assessed the efficacy of quetiapine XR (QTP-XR) versus risperidone in patients with schizophrenia and depressive symptoms (HAM-D score ≥ 20 , item 1 [depressed mood] score ≥ 2).

Materials and methods: Subanalysis from a randomised, open-label, parallel-group, flexible-dose study (NCT00640562) that also enrolled patients with schizoaffective disorder. Primary endpoint: change from baseline to Week 12 in Calgary Depression Scale for Schizophrenia (CDSS) score. A non-inferiority margin of -2.7 (95% CI) was predefined for treatment difference in CDSS for QTP-XR versus risperidone. If non-inferiority was demonstrated, a superiority test of QTP-XR versus risperidone was performed. Secondary endpoint: change in HAM-D.

Results: 114 patients received QTP-XR (n=60; 400-800mg/day) or risperidone (n=54; 4-6mg/day). Change in CDSS score was greater for QTP-XR than risperidone (least squares means [LSM]: -7.2 versus -4.8; treatment difference 2.5 [95% CI 0.3-4.6]). Exploratory ANOVA indicated a significantly ($p=0.02$) greater LSM change from baseline in CDSS score for QTP-XR versus risperidone. LSM changes in HAM-D total score were: QTP-XR, -13.2 and risperidone, -10.4 ($p=0.2$). Adverse events reported in $\geq 3\%$ of patients for QTP-XR were sedation, somnolence and dry mouth and for risperidone were anxiety, insomnia, asthenia, hyperprolactinaemia and somnolence. Two patients receiving QTP-XR died (unrelated to study drug as judged by the investigator). Abnormally high prolactin levels were reported for 57.6% and 8.1% of patients administered risperidone and QTP-XR, respectively.

Conclusions: QTP-XR was superior to risperidone at reducing depressive symptoms in patients

with schizophrenia according to CDSS score.

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P071

Implementation (ICT tool) and evaluation of practice guidelines and information materials in health care workers (physicians and pharmacists)

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Background: Research has shown that certain diseases and disorders may affect driving performance. However, the medicines prescribed for many diseases and disorders can make us just as dangerous being behind the wheel. Current research focuses primarily on the Central Nervous System impairment brought even by some over-the-counter medicines. The realisation of the need for alterations in existing guidelines on the way physicians and pharmacists prescribe and dispense medicines is a general goal of the European research project “DRUID” [1]. Experts have formulated new guidelines and protocols within the framework of the project.

Professional guidelines provide the foundation for better and cost-effective practice. The rising of comparability in medical practice ensures the development of collaboration between research findings and evidence-based medicine. Increased application of methodological frameworks and criteria has increased the capacity of research-based evidence to derive information from relevant research outcomes. In other words, similar clinical practices allows for translation of their findings into applicable ideas.

Extensive reviews on guidelines implementation have half-heartedly reported limited and non-consistent effect of guidelines in changing physicians’ behaviour [2]. The processes and factors involved in health care professionals’ adherence to guidelines have not been investigated in depth and little is known with regards how it could successfully be succeeded [2]. The adopted theoretical model was the one proposed by Cabana and colleagues (1999) and advocates that guidelines adherence should follow change in behaviour, knowledge and attitudes.

Prescribing and dispensing guidelines developed within the DRUID project were evaluated in clinical practice settings as one of the tasks in Work Package 7. The primary goals of this task were to evaluate the effectiveness of the implementation of developed protocols and guidelines on healthcare professionals’ (physicians, pharmacists, nurses) attitude, knowledge and reported behaviour via two different approaches: i) by using an integrated (ICT) tool (additional software integrated into the ICT software used by the professional in his daily practice; country specific development) and ii) by using a non-integrated tool for presenting the protocols and guidelines (ICT tool developed within the framework of the project).

Materials and methods: The target populations were health care professionals in the primary care setting: i) physicians (Belgium, Spain), ii) pharmacists (Belgium, the Netherlands, Spain) and iii) Nurses (Spain).

In addition, a “pure” control group was added to evaluate the effectiveness of current practices with no DRUID-relevant information.

Participants were introduced to the tools/software(s) used through a training scheme. Some of the participants did not receive training (e.g. the integrated group of physicians (SoSoeMe)). In

addition, participants were informed about the DRUID guidelines regarding driving and medicines intake. The time sequence involved a standard procedure of recruitment, briefing, and consent. Participants filled in the pre-questionnaire at the start of their training and a post-questionnaire after six months of using the DRUID guidelines in their practice).

They used the software during their daily practice for either prescribing or dispensing medicines depending on the professional groups they belonged to and after the testing period ended they filled in a post-questionnaire investigating the same artefacts more or less as the initial one in order to enhance and allow comparability and evaluate the effectiveness of the tool and the applied guidelines.

Procedural differences exist and were discussed in depth in the respective reports; however, the framework was not significantly violated allowing for similar up to a certain extent data analysis.

A step further in analysis was the creation of composite scores to facilitate between countries potential comparisons and present the opportunity of an overall evaluation of the effect of guidelines. Overall composite scores were based on commonalities' analysis across national studies with clustering of questionnaire items taken into account. Composite scores were created for three behavioural clusters: a) Reported Behaviour, b) Attitudes/Awareness, c) Actual Knowledge. The Reported Behaviour cluster included question items about how much health professionals take into account the impairing effect of medicines in their daily practice. The Attitudes/Awareness cluster included items about health professionals' attitudes towards prescribing/dispensing drugs that may have an impairing effect on driving fitness. The Actual Knowledge cluster included items about health professional's knowledge of specific effects of certain medicines on driving fitness. These clusters correspond to questionnaire items that were common for all studies.

Results:

Physicians

Almost 74% of participants received no education regarding medicines and driving during their academic studies and their professional participation in post-graduate education.

The knowledge received during the training did change their knowledge about the potentially detrimental effects of medicines on driving fitness for more than half the participants (55%). After the implementation of DRUID guidelines, a 10% increase difference in the positive change in Reported Behaviour was observed in the overall physicians' samples across the country studies. Changes only in Reported behaviour for the physicians have been detected mainly for the following reasons. Reported behaviour questionnaires are straightforward, therefore easier to detect change. Usually, question items related to knowledge and attitudes/awareness have more associations with other personality characteristics such as target characteristics (e.g. self-esteem, intelligence) and other source (e.g. attractiveness) and message characteristics (e.g. nature), therefore it is more difficult to be studied and isolated, especially in a cross-country study with limited time available to extrapolate findings of certain magnitude. The same outcome with regard to Reported Behaviour holds true for pharmacists as well.

Perhaps pharmacists are more used to focus on medicines side effects and instructing patients on how to use their medicines safely, physicians might be more focussed on disease issues, anamnesis and treatment decisions, and less involved in deciding on medicines' behavioural side effects, such as impairing effects on driving fitness.

Pharmacists

The majority of pharmacists (67%) had not received any type of (post-graduate) education on medicines and driving with the exception of the participants in the Spanish study where half the participants had received relevant education (51%). Pharmacists showed an overall positive change in all behavioural clusters under study. Pharmacists incorporated driving related information in their daily dispensing practice. The DRUID guidelines were well received and viewed

as an addition to existing guidelines.

Conclusions: Positive change has been found for both professional groups but for pharmacists this was revealed for all clusters of behavioural items under investigation. The application of DRUID guidelines was successful and pinpoints the readiness of health care professionals to adopt them. The findings should be treated with caution as extrapolations and generalisations are limited mainly because of design variations in the separate country studies. Moreover, these findings support the statement that guidelines are important and can improve the quality of health care. Physicians and pharmacists have shown a change in behaviour after the implementation of DRUID guidelines, therefore these guidelines could be successfully incorporated in existing decision support systems. These guidelines fill in an important “gap” linking prescribing and dispensing of medicine with both patient and road safety. Physicians are affected by the DRUID material training but this should not be a short-term endeavour but be flexible, adaptable, and personalized to local settings.

Overall, based on the comments made by the health professionals within the country reports, the implementation of computerised guidelines and DRUID categorisation was highly accepted as practical information by both physicians and pharmacists and participants were willing to continue using the DRUID information if integrated in their prescribing and dispensing computer systems for easier incorporation in their daily practices. Participants offered ideas for future developments such as inclusion of other medicines in the categorisation scheme and the information should be adjusted to the native language. Future recommendations should also include specialized and elderly directed advices incorporated in the system and adaptation to other target groups and not only drivers (e.g. heavy machinery usage and senior people information).

Acknowledgements:

This study was conducted under the framework of DRUID European Integrated Project and was successfully completed with the close collaboration of research teams from several European countries.

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P072

Anxiety and pain in patients with lung cancer

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Background: It has been shown high prevalence of anxiety between smokers [1], patients with chronic diseases [2] and patients diagnosed with lung cancer. However, few studies have investigated the relationship between anxiety and pain in lung cancer patients. Thus, the aim of this study was to investigate the relation between anxiety and pain in patients with lung cancer.

Materials and methods: In a randomly selected sample of 101 patients (83 men and 18 women) diagnosed with lung cancer we assessed the anxiety and pain symptoms, using the Spielberg

State - Trait Anxiety Inventory (SSTAI) and the Brief Pain Inventory (short form), respectively [3]. **Results:** The mean (\pm) age was 65.50 years. A percentage of 44.6% of the sample had primary education. The majority of patients (67.3%) were diagnosed with NSCLC, whereas a percentage of 50.5% were classified as stage IV. The means of state and trait anxiety scores were 47.52 (± 9.74) and 38.34 (± 8.45), respectively. Women appeared with statistically higher scores in both subscales of SSTAI (t test $p < 0.05$). Regarding the pain symptoms, the mean score was 4.15 (± 3.1) while women showed higher scores (t-test $p < 0.05$). We observed a positive correlation between the stage of disease, the anxiety scores and the pain symptoms score ($p < 0.05$). There were no any differences between anxiety symptom levels and pain symptoms, concerning the type of cancer (NSCLC and SCLC) (t-test $p > 0.05$). The age and the education level showed no correlation with pain and anxiety symptoms ($p > 0.05$).

Conclusions: Higher levels of anxiety and pain symptoms were found in women, compared with men, diagnosed with lung cancer. A positive correlation was observed between pain symptoms and anxiety level. The stage of cancer has a positive correlation with pain and anxiety symptom levels.

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P073

Quetiapine XR and IR in clinical practice for schizophrenic outpatients - a retrospective study

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Background: The atypical antipsychotic quetiapine fumarate is a recommended first-line treatment for schizophrenia. Quetiapine comes in two formulations, quetiapine extended (XR) and immediate release (IR), which differ with respect to binding and pharmacokinetic profiles as well as dosing frequency. These differences may lead to differential use of quetiapine XR and IR in clinical practice. This non-interventional study (NCT01212575) evaluated the clinical use of quetiapine XR/IR in outpatients with schizophrenia spectrum disorder in Denmark.

Materials and methods: Schizophrenia spectrum disorder patients (ICD10 F20, F23.1, F23.2, F25) attending outpatient clinics, and who had received at least one dose of quetiapine XR and/or quetiapine IR during the study period were included. Doses ≥ 400 mg/d were defined as antipsychotic dosages according to D2-receptor occupancy. Data were collected retrospectively from medical records.

Results: Of 186 included patients, 99 and 87 received quetiapine XR and IR, respectively, as their main treatment. Overall baseline patient demographics were similar for the XR and IR groups. Quetiapine was used at an antipsychotic dosage in 88 (89%) of XR patients vs. 55 (63%)

of IR patients ($p < 0.0001$). Of these, 75% vs. 53% ($p = 0.0019$) used XR and IR at doses ≥ 600 mg/d, respectively. Quetiapine XR was used at higher mean doses than IR (748 mg/d vs. 566 mg/d; $p = 0.006$). A total of 55 (30%) patients used both formulations during the study period, of which 43 (23%) patients used both formulations concomitantly and 12 patients used both formulations sequentially during the study period. Among sequential users, all patients started with quetiapine IR at a lower dose before switching to a higher dose of quetiapine XR. Quetiapine IR was used in an as-needed regimen in 44 (23%) patients, whereas only one patient used quetiapine XR in this way. Patients with newly-diagnosed schizophrenia were more likely to receive quetiapine XR than IR ($p = 0.0009$), while there were no significant differences in patient age with respect to XR/IR use.

Conclusions: Quetiapine XR and IR are used in different ways in the outpatient clinical practice setting in Denmark. Quetiapine XR is more often used in higher (antipsychotic) doses. Many patients use both formulations concomitantly. Quetiapine IR is commonly used in an as-needed regimen.

The differential use of quetiapine XR and IR probably reflects the different properties of these formulations and it stresses their versatility in terms of treatment of choice.

P074

Metabolic Syndrome in subjects diagnosed with Bipolar Disorder in Greece; The Grace III Study

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Background: Bipolar Disorder (BD) is associated with an increased incidence of Metabolic Syndrome (MS)¹. In MS, morbidity and mortality rates are higher, due to an increased risk of heart disease and diabetes². In Greece, the literature contains little epidemiological and clinical information about MS in patients with BD and its relation to different therapeutic regimens.

Materials and methods: In this epidemiological study, 319 adult patients (162 male/157 female) diagnosed with type I or II BD according to DSM-IV-TR criteria, from 37 sites throughout Greece were enrolled. The principle laboratory and clinical parameters of MS (according to NCEP/ATP III criteria), patient Body Mass Index (BMI) scores and the percentage of patients considered as having "controlled" BD was compared to the pharmacological treatment types administered for BD.

Results: 89 (54,9%) males and 71 (45,2%) female patients fit the MS profile (Figure 1). A high BMI (>25 kg/cm²) was associated with significantly elevated MS parameters ($p < 0.0001$) and an inverse relation with HDL-cholesterol ($p = 0.282$; Figure 2). With regards to BD treatment, the fewest observations of high BMIs (>25 kg/cm²) were observed by users of lamotrigine alone (50%, $n = 4$), mood stabilizers alone (59,5%, $n = 37$) and antipsychotics+antidepressants (60,5%, $n = 46$; Figure 3). However, patients were most adequately controlled by the use of lamotrigine (100%, $n = 4$), antipsychotics alone (76,5%, $n = 34$) and mood stabilizers alone (70,3%, $n = 37$; Figure 4).

Conclusions: The Greek BD patients observed had significantly increased MS parameters and BMIs. The use of lamotrigine and mood stabilizers alone were associated with lowest mean BMIs, with the highest control of BD symptoms. Although antipsychotics alone offered good

control of BD, it was associated with the greatest BMIs. The results from this study indicate the pressing need to better understand the association of MS in BD and BD therapeutic agents.

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P075

The effect of alprazolam (xanax) in anxiety patients (both treated and untreated) and healthy controls in driving behaviour in a simulated environment

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Background: Alprazolam is a widely prescribed anxiolytic for the treatment of anxiety, panic disorder, and depression. Current literature suggests that alprazolam impairs driving performance.

Many studies have investigated its effect in cognitive and driving performance. Studies based on laboratory tests have found that alprazolam affects memory, attention and tracking by decreasing performance in most cases [1][2]. Impairment may be limited to the early stages of benzodiazepine intake, with the general clinical suggestion that tolerance develops within a few days of benzodiazepine use [3]. Relevant studies have focussed on cognitive impairments that both directly and indirectly investigate the effect of alprazolam and other.

In general, relevant studies have shown detrimental impairment due to alprazolam administration on driving performance, controlled laboratory settings and subjective scales.

Materials and methods: In this study, the alprazolam effect (0.5 mg) was investigated in three groups: a) treated anxiety patients, b) untreated anxiety patients, and c) control group. 51 participants matched for age, gender and driving experience completed two driving tasks; a lane tracking and a car following scenario in a simulated environment. A second group of healthy participants (N=18) was included in the study with a baseline and an alcohol consumption (BAC=0.05%) condition.

The CERTH/HIT driving simulator was used for the experiments. Driving variables (SDLP), cognitive measures (attention tests), blood samples (whole/serum) and subjective assessments (Subjective Driving Quality, Karolinska Sleepiness Scale) were gathered in a baseline and an oral administration of alprazolam (0.5 mg) condition.

Results: Alprazolam administration impaired weaving control (SDLP) in lane tracking scenario for all groups. It appears that low and high concentrations of alprazolam in blood serum (ng/mL) are associated with a small improvement in lateral position keeping; however intermediate concentrations are associated only with impairment in road tracking for the control group. Impairment in brake reaction time (sec) in the car following scenario was observed in treated and untreated anxiety patients. Healthy participants showed riskier behaviour after alprazolam administration compared to treated and untreated anxiety ($p<.001$) patients who showed increased percentage of time spent with Time-to-Collision (TTC) values between 2 to 4 seconds. Alertness in attentional performance tests was significantly decreased only in healthy participants ($p=.015$).

Conclusions: The main findings of this study are in agreement with current research that alprazolam has a detrimental effect on driving behaviour. Thus, people under alprazolam medication should be informed about the potential detrimental effects of alprazolam administration to their everyday activities and driving. Deterioration in weaving because of alcohol consumption was found to be equivalent to alprazolam effect in treated and untreated patients and significantly less compared to alprazolam effect to the control group. Therefore, the acute effect of alprazolam in anxiety patients may be comparable to alcohol BAC=.05% effect.

Acknowledgements:

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The authors are grateful to Dr. Gisela Skopp and Dr. Ricarda Skopp for the analysis and extraction of alprazolam samples and the respective description of the procedure included in this report.

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P076

Systemic family therapy for children with post-traumatic stress disorder developed after a car accident

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Background: Influence of systemic family therapy (SFT) for children with post-traumatic stress disorder (PTSD) traumatized in a car accident was pointed out through importance of family reaction to acute trauma in children to the possible retraumatization.

Materials and methods: The sample was comprised of 7 sixth grade students - 5 boys and two girls, aged 13. All of the students were involved in a car accident under the almost identical circumstances of exposure. Two groups were formed - one group was comprised of three children who were included in 8 sessions of systemic family therapy (SFT) together with their families. The second group was comprised of 4 children who received antidepressant pharmacotherapy (SSRI) in the period of three months.

Results: Two months after the car accident, before the beginning of the therapy, all of the children were members of rigidly enmeshed family systems, considering the high average cohesion scores and the low average adaptability scores on FACES III. Three months after the received

therapy, having evaluated the results of the therapeutic approaches, we established that the adaptability scores of the families included in systemic family therapy were higher than the scores of the families of the children who received pharmacotherapy, while one boy was still meeting the criteria for PTSD.

Conclusions: Systemic family therapy resulted to be efficient in therapy of children with PTSD as well as in the prevention of retraumatization. Change in the functioning of the family systems was not accidental or simply time-dependant, but it depended on the therapy which was applied and the increased level of family adaptability as the main risk factor of retraumatization.

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P077

Therapeutic planning for adolescents hospitalized for anorexia nervosa

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Background: Eating disorders and especially anorexia nervosa constitute a clinical condition with a constantly rising prevalence among adolescent girls. The acute physical deterioration with which these girls are first presented to the clinician, as well as the serious psychological background of the condition often require immediate and multidimensional intervention in a child psychiatric unit, while the cooperation with doctors of different specializations is essential.

Materials and methods: This study aims to present the therapeutic plan for adolescents with anorexia nervosa, applied in a hospitalization unit.

Results: The primary evaluation involves parameters of physical health and psychological ones, such as image of self, depression and anxiety levels for the patients and their families, family functioning and intrafamilial relations, so that the therapeutic intervention can be designed. The complexity of anorexia requires a personalized approach that involves improvement of weight and physical health through dietary measures, as well as combined pharmacological and psychotherapeutical interventions which include training in food habits, individual psychotherapy, family consultation, elaboration of the body image as perceived by the patient. The cooperation with an internist, a cardiologist, an endocrinologist targets to prevent and treat physical problems caused by the disease.

Conclusions: The various biopsychosocial factors contributing to the appearance of anorexia nervosa and the serious longlasting morbidity and sometimes mortality this disorder causes, essentially require an holistic therapeutic approach, as questions for its pathogenesis still arise.

P078

Oxidative stress, cognition, functionality and neurological symptoms in early-onset psychotic episode patients: A 2 year follow-up

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Background: Oxidative stress has been linked to the pathophysiology of certain mental illness such as psychosis [1]. It has previously described that neurological symptoms are trait markers in schizophrenia [2] and that some cognitive disturbs depend on neurological dysfunction such as coordination [3]. As a result of this, the overall functioning of patient may be affected [4]. The aim of the study was to assess the influence of oxidative stress at baseline with cognition, functionality and neurological symptoms at baseline and at 2 years, in a sample of early onset psychotic patients.

Materials and methods: 110 patients (aged 9-17) with a first episode psychosis were included in the study, whose functionality (GAF scale) and neurological symptoms (NES scale) were evaluated at baseline and at 2 years. We also determined at baseline their blood levels of total antioxidant status (TAS), glutathione (GSH), lipid peroxidation and activity of enzymes glutathione peroxidase, catalase and superoxide dismutase.

Results: A higher TAS at baseline was significantly related with a better cognitive functioning both at baseline and at 2 years, and with better scores in NES scale at baseline. Indeed, the higher levels of TAS and GSH at baseline were also related with a better global functioning of the patient after 2 years of the acute episode.

Conclusions: A better antioxidant capacity at illness onset is related to a better cognitive functioning (baseline and after 2 years) and to a better general functioning after 2 years follow-up. Less neurological symptoms appeared at baseline in those patients with a higher TAS.

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P079

A study of cognitive assessment following Electro-Convulsive Therapy and role of Citicoline following Electro-Convulsive Therapy for depressive patients

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Background: The objective was to study the efficacy of cognitive functions in patients receiving Electro Convulsive Therapy. Electro Convulsive Therapy has been used for many years, but it remains one of the most controversial psychiatric treatments

Materials and methods: Patients suffering from major depression with and without suicidal ideation were recruited for the study. Which was done at Ram Psychiatric Hospital, Madurai (n=60). Baseline cognitive functioning was assessed with Mini Mental Status Examination questionnaire and Mundane Memory Questionnaire during admission. Those who scored less than 15 in MMSE, after 1st Electro Convulsive Therapy were given injection Citicoline 500 mg to 1 gm IV in the next 2-3 Electro Convulsive Therapy and were re-assessed with MMSE following each Electro Convulsive Therapy and finally at the time of discharge.

Results: Patients receiving Citicoline injections following ECTs had better outcome in response to the cognitive functioning, when compared to the patients without Citicoline Post-Electro Convulsive Therapy in depressive patients. The detailed statistical analysis will be discussed during the presentation.

Conclusions: The effectiveness of Citicoline following ECTs has been found to have better outcomes with regard to cognitive functioning

P080

Anxiety and depression and its relation with the sense of coherence in patients diagnosed with lung cancer: The role of the awareness of the diagnosis in these psychological symptom patterns

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Background: The lung cancer diagnosis, with the poor life expectancy, implies considerable psychological burden on patients [1]. Furthermore, the ability of sense-making, understanding and management of the disease consequences may be related to the degree of the sense of coherence. The aim of this study is to investigate the prevalence of anxiety and depression in Greek patients diagnosed with lung cancer and its relation with the sense of coherence and the awareness of the diagnosis.

Materials and methods: The study, which was conducted in a university oncology unit, included 100 lung cancer patients, regardless of type and staging. All participants filled out the Sense of Coherence (SOC) [2] and the Hospital Anxiety and Depression Scale (HADS) [3].

Results: Regarding the awareness of diagnosis, 45% of patients were informed, 28% did not

know the diagnosis, and 27% of patients, although they were not informed, they were suspicious of the diagnosis. The subgroups of unaware and suspicious of the diagnosis patients had higher scores of anxiety and depression than those who were aware (ANOVA Bonferroni $p < 0.05$). Furthermore, patients who suspected their diagnosis presented a lower degree of sense of coherence, compared to those who were ignorant and to those who were aware (ANOVA Bonferroni $p < 0.05$). A significant correlation was observed between anxiety and depression scores, whereas a negative correlation was presented between this symptomatology and the degree of sense of coherence (Pearson correlation $p < 0.01$). As to the prevalence, clinically significant levels of anxiety (HADS anxiety ≥ 11) and of depressive symptoms (HADS depression ≥ 11) were found in 58% and in 57% of participants, respectively.

Conclusions: This study confirms the high prevalence of anxiety and depressive symptomatology in patients with lung cancer. However, the presence of a high degree of sense of coherence seems to be a protective factor. The awareness of the diagnosis effects to the degree of sense of coherence.

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P081

Antidepressants and schizophrenia treatment: What is the target symptom?

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Background: Although antidepressants are not officially approved in schizophrenia, they are commonly administered as augmenting agents to antipsychotics against treatment-resistant symptoms. We aim at reviewing current evidence with respect to antidepressants' use in schizophrenia.

Materials and methods: PubMed and Cochrane library were searched using the keywords "antidepressants", "SSRI", "schizophrenia". Meta-analyses and reviews were preferred whenever possible. Randomized Controlled Trials (RCTs) were included, where evidence appeared weak.

Results: We revealed four distinct symptom categories targeted by antidepressants in schizophrenia: depressive, negative, cognitive symptoms and the symptoms comprising the "at risk mental state". While older reviews examining the addition of tricyclic antidepressants to ongoing neuroleptic treatment proposed a beneficial effect for depressive symptoms, they still alerted clinicians for potential pharmacokinetic interactions and additive anticholinergic side effects. Existing RCTs and a recent review failed to provide conclusive evidence. Reviews and meta-analyses suggest that adding an SSRI to antipsychotic treatment may be promising for

reducing negative symptoms in schizophrenia. A recent RCT showed that mirtazapine addition to risperidone could improve both negative and cognitive symptoms. However, the evidence on the utility of antidepressants in cognitive dysfunction in schizophrenia is limited. Similarly, the evidence on the preventive value of antidepressant monotherapy for people with “at risk mental state” is sparse, although preliminary data demonstrate their superiority over antipsychotics.

Conclusions: Recent data support the use of antidepressants against negative symptoms in schizophrenia. The role of antidepressants in reducing depressive and cognitive symptoms and the conversion rate to psychosis of “at risk” individuals remains to be delineated.

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P082

Development of the Posttraumatic Stress Disorder in Patients with and without Traumatic Brain Injuries

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Background: The concept of mental traumatization, although associated with neurobiological and morphological alterations of the central nervous system is not enough to explain the progressive deterioration of the mental status and treatment resistance which is observed in the certain number of patients with posttraumatic stress disorder. Recent investigations focused almost entirely to the link of traumatic brain injuries and posttraumatic stress disorder during the short-term follow-up of the traumatized population [1,2]. Clinical experience suggests more important link of the delineated phenomena during the long-term longitudinal follow-up. This preliminary report is focused to individuals suffering of PTSD, who experienced traumatic events and traumatic brain injuries more than ten years ago, but were treatment-seeking at the time of assessment. The objective of the investigation was to determine the difference between the severities of the symptom's in chronic PTSD with and without the history of TBI.

Materials and methods: The cross-sectional study was performed from September 2009 to January 2010. at The Clinic for Mental Health, Clinical Center Ni . Totally 60 consecutively admitted patients suffering of chronic PTSD were included in the analysis: 36 with the history of TBI and 24 without the history of TBI. The Glasgow Coma Scale was performed for the patients with the history of head trauma. The estimation of the severity of the PTSD symptoms was performed using the CAPS-DX. The data were analysed using ANOVA and PostHoc analysis

Results: Severities of the reexperiencing symptoms were higher in PTSD with TBI vs PTSD w/o

TBI: in nightmares, reexperiencing, psychological distress ($p < 0,05$), in intrusive recollections and in total score of reexperiencing symptoms ($p < 0,01$). PostHoc analysis showed higher scores of intrusive recollections ($p < 0,01$) and physiological distress ($p < 0,05$) in PTSD with moderate/severe TBI vs PTSD w/o TBI

Severities of the avoidance symptoms were higher in PTSD with moderate/severe TBI vs PTSD w/o TBI: in avoidance of thoughts, avoidance of activities ($p < 0,05$), in detachment and in total avoidance symptom's scores in PTSD with moderate/severe TBI vs PTSD w/o TBI. PostHoc analysis showed higher score of detachment in PTSD with mild TBI vs PTSD w/o TBI.

Severities of hyperarousal symptoms were higher in PTSD with TBI: in sleep disturbances, difficulty concentrating ($p < 0,05$), and in total hyperarousal symptom's score ($p < 0,01$). PostHoc analysis showed greater severity of sleep disturbances in PTSD with moderate/severe TBI vs PTSD with mild TBI ($p < 0,05$), and in PTSD without TBI ($p < 0,01$), and greater score of difficulties concentrating ($p < 0,01$) and total hyperarousal symptom's ($p < 0,05$) in PTSD with mild TBI vs PTSD without TBI.

Conclusions: The results pointed out that the differences in the severity of the symptoms of PTSD with and without TBI do exist. The symptoms which differed most significantly among groups involved: intrusive recollection, re-experiencing, avoidance of thoughts and activities, detachment, sleep disturbances and difficulty concentrating. The neural circuits underlying above mentioned symptoms, involving hippocampus, DLPFC and OFC, proved to be vulnerable to TBI. An assumption can be made, in accordance with literature, that TBI may diminish the capacity to employ cognitive resources that would normally be engaged in problem solving and regulating emotions after trauma, thereby leaving an individual more susceptible to PTSD and related problems [1, 2, 3]

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P083

Written in the stars? The role of timing of birth in the background of personality and psychopathology: birth season is associated with affective temperaments in a general population

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Background: Annual rhythms are inherent characteristics of living organisms, and they have been reported for diverse physiological and pathological conditions and phenomena. An effect of birth season was found in case of various neuropsychiatric disorders, central monoamine metabolite levels and personality traits. The association of affective temperaments with birth

season would be especially interesting to investigate because of their well-known pathoplastic role in bipolar disorders.

Materials and methods: 366 students completed the TEMPS-A questionnaire. OLS regression was applied to explain the relationship between TEMPS-A subscale and birth season of the respondents.

Results: A significant association was found between birth season and Hyperthymic, Cyclothymic, Irritable and Depressive temperament scores.

Conclusions: Our results support a strong association between season of birth and personality, extending the results to affective temperaments as well. Furthermore, our results are in line with clinical observations concerning the seasonal variation of onset and hospitalization due to affective episodes. This is especially important, since affective temperaments are conceived as the subaffective manifestations of affective disorders indicating a risk for the development of these disorders and also exerting a possible pathoplastic effect.

P084

Revealing the hidden hand in GP surgeries - Prevalence of depressive disorders and screening instruments to boost detection in primary care settings

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Background: Depressive disorders are common conditions in primary health care service and many depressed patients consult their general practitioners. However, GPs have some difficulties in the detection and correct diagnosis of depression. Unrecognized and untreated depression causes great health and economic burden and also contributes to significant suffering. Therefore the correct recognition of affective disorder in GP settings is an important healthcare target. The aim of our study was to assess the prevalence of depressive disorders in general practices in Hungary and also to assess the sensitivity and specificity of different depression screening instruments.

Materials and methods: In the present study the current prevalence of DSM-IV depressive disorders were surveyed among 984 primary care attendees in 6 GP surgeries in Hungary, using the Beck Depression Inventory and the PRIME-MD screening instrument.

Results: The current prevalence rate of any PRIME-MD DSM-IV depressive disorders, including symptomatic major depressive episode, were 18.5% and 7.3% respectively. Beck Depression Inventory identified any current depressive disorders with 95% sensitivity and 56% specificity and the same figures for current symptomatic major depressive episode were 83% and 23%, respectively.

Conclusions: Our results are similar to those reported previously from Hungary and from other countries. The findings also indicate that the Beck Depression Inventory and PRIME-MD can help in detecting depressive disorders in primary care.

P085

5-HTTLPR, Depression, and Aggression/hostility: a possible common pathway for suicidality?

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Background: The 5-HTTLPR is associated both with aggressive/hostile traits and affective illness. It is hypothesized that the s allele predisposes to a general vulnerability which may be manifested in any single or more of several distinct traits and phenomena, in this case either in depression or aggression. Aggressive traits predispose to suicide, and so does depressive illness, so suicide is one common point where these two phenomena definitely converge, and enhance the effects of each other. Our aim was to investigate the pattern association of the 5-HTTLPR with aggressive traits measured by the Buss-Durkee Hostility Inventory in major depressive women and healthy women.

Materials and methods: 255 women completed the BDHI and were genotyped for 5-HTTLPR. BDHI scores in the different groups were investigated by Generalized Linear Model Analysis. Association between dependent and independent variables in the model was tested by the likelihood ratio Chi-square statistic.

Results: Diagnosis and genotype showed a significant association with several aggressive/hostile traits. Interaction of the two main effects was also significant in case of several subscales. Post hoc analyses indicated a significant association between BDHI subscales and s allele only in the depressed group.

Conclusions: Our results indicate a robust relationship between aggression/hostility and 5-HTTLPR genotype, but this association is more marked in the presence of depression. Presence of the s allele thus not only contributes to a higher risk of depression, but in depressives also leads to higher aggression/hostility. Our results have important implications for suicide research, since the s allele is associated with violent suicide, and this association may be mediated through the emergence of increased aggression/hostility in depressed patients carrying the s allele.

P086

Effects of physiotherapy in patients with MCI and pain problems

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Background: Chronic pain is associated with a queue of negative overcomes in youngest, though pain in elderly is being faced as a non-pathological entity, due to aging. This leads to lack of treatment, which enforces the vice cycle deteriorating the ache. In addition, because of pain's multivariuous origins, individual and environmental, can confuse further the diagnosis and treatment. Cognitive factors are assumed to play a significant role between experience of pain and consistent dysphoria levels which has the patient. Brain areas which are associated with cognition process, additionally participate in pain process.

Materials and methods: In the current study took part 51 patients with MCI and pain problems who followed the physiotherapy sessions in our Day Center during the time period between September 2010 to May 2011. The assessment tools used were Geriatric Pain Measure and the Vas scale, while the patients had completed the appropriate neuropsychological assessment consisted of MMSE, FRSSD, GDS and NPI. Data were analyzed by Pearson correlation, according to sample's homogeneity and t-test in order to find possible relations with control group from waiting list.

Results: The experimental group scored statistically significant lower levels of pain intensity and general functionality ($p < .003$), whereas their mood has been improved relating to GDS score ($p < .001$). Furthermore, have not been observed possible changes in the rest neuropsychological assessment scores.

Conclusions: Physiotherapy sessions create a significant part in a day care clinical praxis among patients with memory and pain problems. Except their direct impact on pain intensity, they can have an indirect impact on memory problems through the mood improvement. Further research can explore specific correlations between physiotherapeutic exercises and exact neuropsychological tools.

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P087

The effect of antidepressant treatment on serum brain-derived neurotrophic factor levels in depressed patients

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Background: Recent studies suggested a role of brain-derived neurotrophic factor (BDNF) in depression. While BDNF levels are lower in depressed patients, antidepressant treatment increases serum BDNF levels of depressed patients. Our study aims to test the effect of antidepressant treatment on serum BDNF levels in patients with depressive disorder.

Materials and methods: Thirty patients diagnosed with depressive episode according ICD-10 are included in the study. 23 patients were drug-naïve; 7 patients were drug-free for at least 4 weeks. The severity of depression was assessed with Hamilton Depression Rating Scale (HDRS). The control group consisted of 30 healthy age- and sex-matched subjects. Blood samples were collected at the baseline and after achieved remission (minimum decrease of HDRS of 50%).

Results: At the baseline the mean serum BDNF level was 12.51 ± 6.17 ng/ml and the mean HDRS score was 28.4 ± 3.65 . Serum BDNF levels of the study group were significantly lower than in the control group (26.89 ± 9.67 ng/ml). At the end of the study, the mean serum BDNF level was 23.51 ± 9.67 ng/ml whereas the mean HDRS score was 7.47 ± 3.18 . From the baseline to the remission, the increase in serum BDNF level and the decrease in HDRS score were statistically significant, respectively. The comparison of the serum BDNF levels of depressed patients at remission with that of the controls, showed no statistically significant difference.

Conclusions: Our study suggests that low BDNF levels may play a pivotal role in the pathophysiology of depression and that antidepressants may increase BDNF in depressed patients, which may be considered as a nonspecific peripheral marker of depression.

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P088

Hyponatraemia: A Retrospective Analysis of its Epidemiology in hospitalized patients at a Geriatric Psychiatry Clinic

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Background: Hyponatraemia (serum sodium concentration <135 mEq/Lt) is the most common electrolyte abnormality seen in general hospital patients, with an incidence of 1% -2% in the general population (1), to 35-40% in patients hospitalized in Intensive Care Units or in Emergency Departments (2). Objective: To assess the frequency of hyponatraemia in patients who were hospitalized at Geriatric Psychiatry Clinic and study the epidemiological characteristics of all hyponatremic patients.

Materials and methods: This retrospective cohort study included all adult hospitalizations at a Geriatric Psychiatry Clinic occurring between August 2010- August 2011. We collected clinical and laboratory data and study their medical history and treatment.

Results: Of a total 106 measurements of sodium levels of 57 patients studied during hospitalization, hyponatraemia was present in 14 measurements (13,2%) of 11 patients (19,2%). The average age of hyponatremic patients was 67,7 years (versus 68,7 years of patients with normal sodium levels). Serum urea levels of hyponatremic patients were on average 33,3 mg/dl (vs 35,4 mg/dl) and serum creatinine 1,02 mg/dl (vs 1,01 mg/dl). 45% of hyponatremic patients were females (vs 65%). The annual mortality of hyponatremic patients was associated with a higher rate (18% vs 2%). 36% of hyponatremic patients were hospitalized in general hospital for several causes, versus 15%. 45% of hyponatremics were bedridden vs 26% of patients with normal sodium levels.

Conclusions: Hyponatraemia's high prevalence and potential neurologic and psychiatric sequelae make a logical and rigorous differential diagnosis mandatory before any therapeutic intervention(3,4). It is also associated with increased morbidity and mortality, whereas the age and the renal function do not differ compared with patients without documented hyponatraemia.

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P089

Two case reports of mental patients with religious delusions and homosexual background

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Background: Based on our clinical experience at the Psychiatric Hospital of Attica, in a fair amount of patients' cases we noted a behaviour characterized by both hyperreligiosity and an obsessive preoccupation with thoughts, past experiences or present tendencies of homosexual nature. Moreover, the religious sentiment was usually the predominant element in the patients' psychotic symptoms.

Materials and methods: Two patients' cases are presented, both of whom have been hospitalized in our clinic that exhibit the range of symptoms described above.

Results: Both patients share a history of homosexual experiences, obsessive thoughts of guilt concerning them, a vivid and externalized religious behaviour and, finally, religious delusions and hallucinations characterizing their active psychopathology. Here, we propose a possible explanation for the patients' specific symptoms, examining the connections between sexuality, religion and mental illness.[1,2,3,4]

Conclusions: We share the observation, made at the clinical setting, of the connection between homosexually experienced mental patients and a later developed overreligiosity, accompanied by respectively themed psychotic symptoms. We note that such a connection probably belongs to the often seen disapproval of sexuality in patients with psychotic thought content. Taking into account the fact that sexual orientation minorities are vulnerable to poor mental health outcomes, we propose that a therapeutic approach targeting these specific issues could lead to a reduction of the patients' dysphoria and improve the overall treatment procedure.

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P090

Reasons for switching antipsychotic treatment in outpatients with schizophrenia: Results from the ETOS study

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Background: The treatment of schizophrenia poses great challenges due to its lifelong character; balancing efficacy and safety often necessitates switching between antipsychotic medications. The ETOS study aimed to identify the reasons and evaluate the outcome of switching antipsychotic treatment in outpatients with schizophrenia. Here, we present the reasons for switching.

Materials and methods: ETOS was an observational 18-week study in outpatients 18 to 65 years of age, diagnosed with schizophrenia according to DSM-IV at least six months prior to enrolment, who were initiated on a new antipsychotic monotherapy within the preceding two weeks. A total of 574 patients were recruited by 87 both hospital- and office-based physicians. Ethical approval was obtained prior to study initiation (NCT00999895).

Results: The per protocol population included 568 patients with a mean age of 39 years (± 11.2), and a male-to-female ratio of 53:47%. The majority were urban residents (70.1%), at least high-school graduates (66.2%), unemployed (61.2%) and married or cohabiting (83.5%). The mean time since diagnosis was 11.7 years. The most common concomitant diseases were the psychiatric (apart from Schizophrenia) disorders (32.7%), and neurological comorbidities (12.7%). The main reason for switching antipsychotic treatment was lack of tolerability ($n=369$, 65.0%), followed by lack of efficacy ($n=249$, 43.8%); interestingly for 8.8% of patients the lack of both tolerability and efficacy was the reason for therapy switch. The main tolerability reasons in descending order of prevalence were weight gain (40.4%), extrapyramidal symptoms (30.1%), lack of tolerance (11.4%), hyperprolactinaemia (10.6%), hyperlipidaemia and/or hyperglycaemia (6.5%). Patients who changed treatment for tolerability reasons ($n=369$) were mainly (>10%) switched from olanzapine (37.4%) and risperidone (24.7%). Patients who switched due to lack of efficacy ($n=249$) were mainly (>10%) switched from aripiprazole (22.1%), risperidone (21.3%), olanzapine (16.5%) and ziprasidone (12.9%).

Conclusions: Consistent with previous research findings, the ETOS study identified lack of tolerability to be the main reason for switching antipsychotic treatment in outpatients with schizophrenia. Differentiation between the atypical antipsychotics on a patient-individualized basis is therefore essential, in terms of both short and longer-term safety/tolerability profiles.

P091

The clinical benefit of switching antipsychotic treatment in outpatients with schizophrenia: Results from the ETOS study

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Background: Schizophrenia is a debilitating disease in need of lifelong treatment; optimizing efficacy and tolerability outcomes often demands antipsychotic medication switching. The ETOS study aimed to identify the reasons and evaluate the outcome of antipsychotic monotherapy switching strategy in outpatients with schizophrenia. Here, we present the clinical benefit of treatment switching.

Materials and methods: ETOS was an observational 18-week study in outpatients 18 to 65 years of age, diagnosed with schizophrenia according to DSM-IV at least six months prior to enrolment, who were initiated on a new antipsychotic monotherapy treatment within the preceding two weeks. The clinical benefit of treatment switch was assessed using the following standardized tools; CGI-Clinical Benefit (CGI-CB), CGI-Improvement (CGI-I), CGI-Severity (CGI-S), Positive And Negative Syndrome Scale (PANSS), and Brief Adherence Rating Scale (BARS). A total of 574 patients were recruited by 87 hospital- and office-based physicians; statistical analysis was performed on the study population attending all follow-up visits (Per Protocol Population-PPP). Ethical approval was obtained prior to study initiation (NCT00999895).

Results: The PPP comprised 568 patients with a mean age of 39 years (± 11.2) and mean disease duration of 11.7 years. Male-to-female ratio was 53:47%. The majority of patients were urban residents (70.1%), at least high-school graduates (66.2%), unemployed (61.2%) and married or cohabiting (83.5%). Lack of tolerability was the main reason for treatment switch (65.0%, n=369), followed by lack of efficacy (43.8%, n=249). Following treatment switch, 87.9% [95% CI: 84.9-90.4] of patients (n=499) showed meaningful clinical benefit by achieving a CGI-CB score of ≤ 4 at final visit. Clinical benefit was achieved for, 86.9%, 89.0% and 84.0% of patients who switched therapy for efficacy, tolerability or for both reasons, respectively. Total PANSS, CGI-I and CGI-S scores were significantly improved by the end of study, showing a mean decrease of 31.69, 0.70 and 1.14 respectively ($p < 0.0001$). BARS was also significantly improved by the end of 18-week follow-up period (mean change +9.73, $p < 0.0001$).

Conclusions: Antipsychotic monotherapy switch due to lack of efficacy and/or tolerability has led to a substantial improvement in patients' clinical benefit and a significant increase of patients' adherence to treatment in daily clinical practice without the need for combination therapy.

P092

Impaired executive functioning after left anterior insular stroke: A case report

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Background: Due to its anatomic and functional complexity and interconnectivity, acute insular lesions may result in various clinical presentations, such as somatosensory, movement, autonomic, emotional, and language disorders. Although functional neuroimaging studies have shown that the left anterior insula plays a salient role in the integration of sensory information with emotional awareness and the adjustment of attention and cognitive control, no clinical manifestations have been reported to date. The aim of the current study is to investigate executive functioning after left anterior insular stroke.

Materials and methods: The patient is a 45-year-old woman with an acute left anterior insular infarct, as revealed by brain magnetic resonance imaging (MRI). Neurological and neuropsychological examination was assessed. Neuropsychological assessment included a number of standardized neuropsychological tests which examine memory, attention, visual, verbal, and executive functioning.

Results: Neurological examination showed no focal signs. Neuropsychological assessment was suggestive of impairment in executive functioning, particularly in cued verbal, writing and design production, mental flexibility, as well as in attention and inhibitory control, without exhibiting further deficits in perception, language or memory.

Conclusions: Our case is consistent with the hypothesis that the left anterior insula is involved in executive functioning. Furthermore, our case suggests that a left anterior insular infarct may result in executive impairment.

P093

Seasonal variations in the number of admissions in the psychiatric hospital

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Background: Several years following of fluctuation of the number of admissions in Special psychiatric hospital in Gornja Toponica pointed out the existence of certain periods during the year when the number of admissions increases and seasons when this number declines

Materials and methods: In this work admissions for treatment in Special hospital for psychiatric diseases in Gornja Toponica, in ten year period from 01. 01. 2000. to 31. 12. 2009 were reviewed.

Results: In the period since 01. 01. 2000. to 31. 12. 2009. 14727 patients have been admitted in Special hospital for psychiatric diseases in Gornja Toponica. From this number around one quarter of patients were female (26,76%) while the majority of admitted patients (10786) were male. Most of the male patients were admitted with diagnosis F10 to F19 - 5083 patients, while

female patients were most often diagnosed with F20- F29 (schizophrenia and other psychotic disorders)- 1913 patients. The smallest number of admissions was recorded during winter months (January and February) and at the beginning of spring (April), and the largest during the summer (June, July, August). The most admissions of patients diagnosed with substance related disorders, was in December while the number of admissions of patients diagnosed with schizophrenia and other psychotic disorders was largest in august.

Conclusions: Following the number of admissions in Special hospital for psychiatric disorders over the years lead to a conclusion that seasonal fluctuations are immanent, but it is hard to say if regularity of these fluctuations exists.

P094

The effect of interpersonal relation training on anxiety, depression and stress signs of Kerman Zoghal Sang university students

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Background: Although life skill (interpersonal relation training) has become a popular method, little is known about its efficacy. Therefore, our objective was to conduct an effect size analysis of this popular intervention. The aim of this study was to compare the effectiveness of interpersonal relation training in the resolution or decreasing of depression and anxiety signs in university students.

Materials and methods: In randomized clinical trial, 160 students were recruited into two groups, interpersonal relation training and control groups. Experimental group students take part in 5 sessions involving discussions and activities related to the interpersonal relation. Depression, Anxiety Beck and Stress Scales of all participants were evaluated before the training and after the training, and all experimental students group were compared with their randomized control group.

Results: Evaluation after 4 week, demonstrated that interpersonal relation training is a promising intervention for reducing anxiety, depression and stress sings.

Conclusions: It is concluded that the mentioned method is effective on anxiety, depression and stress sings of students, and considering the importance of psychological interventions, it is necessary that such methods be taught to students.

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P095

Extrapyramidal side effects of the application of per oral in correlation with long term Risperidone

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Background: Usage of per oral Risperidone is followed by significant oscillations of drug concentration in plasma, that can be the cause of adverse extrapyramidal effects. On the other side application of long term Risperidone is characterized with a more stable drug concentration in plasma compared to the oral form and without drug accumulation in the organism.

Materials and methods: 12 patients were examined in this work, diagnosed with F20 and F23 (ICD 10 criteria). They were treated with Risperidone tablets during an average 4,25 months in daily doses from 3mg to 6mg. Extrapyramidal symptoms were observed at all of these patients, that resulted in the usage of antiholinergic medication.

Low medicamentous compliance at these patients resulted in the start of treatment with long term Risperidone ampoule (Ampoule Rispolept Consta). While slowly reducing the doses of Risperidone tablets, ampoule of Rispolept Consta were given every two weeks in doses: 25 mg, 37,5 mg or 50mg.

Results: Three months after complete transition from oral to long term medication, evaluation of presence of adverse effects was conducted. Adverse extrapyramidal effects were absent at most patients (75%).

Conclusions: There are differences in appearance of adverse extrapyramidal effects after usage of Risperidone tablets and ampoule of long term Risperidone. Extrapyramidal side effects of long term application of Risperidone were less expressed.

P096

Cytotoxic effect of angiogenesis inhibitor Fumagillin on C6 glioma cells

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Background: Fumagillin is a naturally secreted antibiotic of *Aspergillus fumigatus* and it has been shown to block angiogenesis by its inhibition of cell proliferation. Fumagillin, has strong inhibitory activities against tumor growth and metastasis in a wide variety of tumors. It inhibits proliferation of a variety of some cancer cell lines. In this study, cytotoxic effect was investigated different concentrations of Fumagillin (25, 50, 75, 100 μ M), on C6 rat glioma cells.

Materials and methods: Cytotoxic effect of fumagillin on glioma cells were determined by the 3-(4,5-Dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) assay. Also morphological differentiations of C6 cells after 24 hours of treatment with the different concentrations of fumagillin were observed by light microscopy.

Results: Due to increasing concentration and time, fumagillin were caused by a reduction in mitochondrial activity on C6 cells. After 48 hour incubation, according to control group nearly two-fold and more reduction of mitochondrial activity were observed in 50, 75 and 100 μ M con-

centration of fumagillin. According to morphological examinations, decreasing cell proliferation was observed with increasing fumagillin concentration.

Conclusions: We determined that fumagillin had significant cytotoxic effect on the C6 glioma cells.

P097

A hypothesis for the pharmacotherapy of personality disorders

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Background: One of the main practical issues regarding personality disorders is the limited knowledge on the possibilities for psychopharmacotherapeutic intervention on this group of disorders.

Most often patients with a personality disorder are the object of treatment in a state of personality decompensation i.e. a condition limited in time that is the result of the reaction of a distorted personality to a specific event or change in the environment. In this cases pharmacological treatment is oriented to the features of the reaction, not the personality (depression, psychosis, etc.) after which the patient is oriented towards a diverse range of psychotherapeutic interventions aimed to address the personality disorder. Nevertheless personality disorders themselves represent a therapeutic challenge that needs to be addressed as directly as any other psychiatric disease, due to its effects on social functioning and personal relationships.

Materials and methods: Empirical observations point to the possibility for pharmacotherapeutic treatment of personality disorders mirroring that of psychiatric disorders in the same specter (eg. treatment of schizotypal personality disorder with schizophrenia medication).

Results: A number of cases in which this principle has been applied have shown a good therapeutic outcome.

Conclusions: This approach appears to represent a valid perspective for further research on the possibility for pharmacological treatment of personality disorders as a stand-alone category in psychiatry.

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P098

The psychological immune competencies and resilience to depression

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Background: It is well known and also increasingly investigated how early and current adverse life events can sensitize certain people while not others to susceptibility of depression (1, 2). The threatening life events, childhood adverse events, social support and psychological immune competencies have been investigated individually and reported to play an important role in the development of depression. However, less attention was paid to how these factors may influence each other, and the possible mediating role they play in each other's impact on the resilience of depressive symptoms. The aim of our study was to investigate the possible interaction and mediating relationship between threatening concurrent and childhood life events, present social support and the psychological immune system and their role in resilience to depressive symptoms using structural equation modelling in a large sample of average population.

Materials and methods: Seven hundred and forty-one unrelated volunteers, 222 men and 519 women were included in the study. The inclusion of subjects was random and independent of any positive psychiatric anamnesis. All subjects were Hungarian and of Caucasian origin, and they were recruited from general practitioners, adult students participating in a long-distance learning program, and community-based population. The mean age of participants was 31.38 ± 0.39 years. Participants completed six questionnaires: a background questionnaire, the Threatening Life Events Questionnaire (TLE), the Social Support Questionnaire (SSQ), the Social Problems Questionnaire (SPQ) and Childhood Trauma Questionnaire (CTQ) the Psychological Immune Competence Inventory (PICI) the Zung Self-Rating Depression Scale (ZSDS). We used Structural Equation Modeling (SEM) to analyse the effects in our sample.

Results: We found a significant interaction between the three PICI subdimensions (MOB -mobilising, activating, and executive system; APP - approach system, SELF - self-regulation system) and Childhood Life Events and between PICI subscales and Lifetime Events as well, indicating that childhood and current life events have a significant effect on coping strategies. Life events (LEQ) and Childhood life events (CTQ) influenced the Zung (ZSDS) depression scores both directly and indirectly via the mediating effect of psychological immune competencies (PICI). All three PICI subdimensions (MOB, APP and SELF) had a significant direct effect on ZSDS total score.

Conclusions: We found that childhood and current life events influence susceptibility to depressive symptoms both directly and also indirectly via the mediating effects of coping strategies and psychological immune competencies. Our results indicate that the MOB subdimension, including psychological immune competencies related to mobilizing and activating resources and execution, plays the mediating role between life events and emergence of depressive symptoms. Our results are valuable also in the research for relevant endophenotypes for the genetic studies of depression.

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P099

Confirmatory evidence for the association of seasonality and seasonal affective disorder with serotonin-2A receptor gene

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Background: The seasonal fluctuation of certain psychological (mood, attendance) and vegetative symptoms (activity level, weight and sleep changes) is manifested in the normal population to varying degrees, contributing to the spectrum of seasonality. The clinical condition of Seasonal Affective Disorder (SAD) is the extreme end of this phenomenon. The serotonin-2A receptor gene has long been suggested as a candidate gene in the background of seasonality and SAD. We hypothesized that functional sequence variations in this gene (rs731779, rs985934 and rs6311 was analyzed) could contribute to the development of the above phenomena.

Materials and methods: A population sample of 609 participants completed the Global Seasonality Scale (GSS) of the Seasonal Pattern Assessment Questionnaire, and the Seasonal Health Questionnaire (SHQ).

Results: We found significantly higher scores among rs731779 GG genotype carriers on both GSS ($p=0.0184$) and SHQ ($OR=6.47$, $CI=1.94-21.57$) scales. In the haplotype analysis subjects carrying the 'GCC' haplotype scored higher, while presence of the 'GCC' haplotype lead to lower scores on the GSS scale.

Conclusions: These results suggest that variations in the HTR2A gene play a significant role in the development of seasonality and especially in winter type SAD. The fact that the polymorphisms in questions showed association not only with clinical SAD but also with seasonality symptoms in a general population provides evidence for the spectrum nature of this phenomenon.

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P100

Management of Wernicke-Korsakoff syndrome in a patient with borderline personality disorder: A case report

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Background: We present the management of a severe chronic alcohol abuse patient presenting with Wernicke-Korsakoff Syndrome leading to remarkable recovery

Materials and methods: A 48 year-old female patient was brought to the Emergency Department of the Psychiatric Hospital of Athens suffering from delirium due to severe alcohol intoxication and malnutrition. She abused alcohol during a long period of time until her admission in the Internal Medicine department of our hospital due to electrolytic, hepatic and platelet count disorders. The patient presented with fluctuating level of alertness, confusion, agitation, aphasia, disorientation and involuntary motor movements. She was about 45 kg and had skin lesions all over her body. Her personal medical history included Borderline Disorder with 2 suicide attempts, 2-year heroin abuse, chronic alcoholism and at least one psychotic episode 20 years ago. She was diagnosed with Hepatitis C 4 years ago (untreated till present day). Patient was initially treated with IV thiamine, IM diazepam and later received per os thiamine, benzodiazepines, antipsychotic and antidepressant agents

Results: The patient was hospitalized for 2 months: 1 month in the Internal Medicine Department and 1 month in the 3rd Psychiatric Department of the Psychiatric Hospital of Athens. Her improvement on mental state, cognition, memory, attention, motor & gait functions was remarkable after about 45 days of hospitalization. Mild Korsakoff 's psychosis symptoms were observed.

Conclusions: Intensive drug treatment with thiamine, benzodiazepines, antipsychotic & antidepressant agents for a sufficient period of time can lead to a substantial improvement of Wernicke-Korsakoff's syndrome.

Acknowledgements:

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P101

Escitalopram in the treatment of the Obsessive-Compulsive Disorder

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Background: Since the introduction of clomipramine other pharmacological approaches to treat Obsessive Compulsive Disorder (OCD) using medication have been developed and predominantly include the use of selective serotonin reuptake inhibitors (SSRI) (1).

This study find to describe the use of escitalopram in OCD patients visited in Barcelona's Sant Martí Sud outpatient mental health center and also, to describe their characteristics.

Materials and methods: This is a descriptive and transversal study. It includes all the patients who have been visited in Sant Martí Sud outpatient mental health center during the year 2009. Sociodemographical and clinical data are analysed with SPSS 15.5 statistical package.

Results: It is obtained a sample of 50 patients (54% men), mean age 44.7 ± 12.82 years, with an average number of years of evolution of illness of 12.24 ± 7 years.

The 16% of the sample did not receive any psychopharmacological treatment.

Out of the other 84%, just 2% was treated with escitalopram and always in monotherapy. In our sample didn't exist the use of escitalopram in combined therapy.

Conclusions: There are several studies that show the emerging role of escitalopram in the treatment of OCD: it is the most selective of the SSRI, like other drugs that are considered to be first-line drug treatments for OCD; it has shown efficacy in other anxiety disorders; it is well tolerated and has favourable pharmacokinetics (2).

In spite of all this, escitalopram is only used in the 2% of our sample. These results suggest that escitalopram should be more taken into consideration when treating this disorder.

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P102

Fluvoxamine in the treatment of the Obsessive-Compulsive Disorder

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Background: The efficacy of clomipramine is well established, and its inhibition of serotonin reuptake guided attention to a possible role for serotonin in Obsessive-Compulsive Disorder (OCD). Other approaches include the use of selective serotonin reuptake inhibitors (SSRI) (1). This study find to describe the use of fluvoxamine in the OCD patients visited in Barcelona's Sant Martí Sud outpatient mental health center and also to describe their characteristics.

Materials and methods: This is a descriptive and transversal study. It includes all the patients who have been visited in Sant Martí Sud outpatient mental health center during 2009. Sociodemographical and clinical data are analysed with SPSS 15.5 statistical package.

Results: It is obtained a sample of 50 patients (54% men, mean age 44.7 ± 12.24 years), with an average number of years of evolution of illness of 12.24 ± 7 years.

The 16% of the sample did not receive any antidepressant treatment.

Out of the other 84% of the sample, the 12% was treated with fluvoxamine. Out of this 12%, only 4% with monotherapy, the other 8% with combined therapy. Out of this 8%, 6% with fluvoxamine + SSRI, and 2% with fluvoxamine + tricyclic antidepressant.

The total use of SSRI in our sample reaches 62%.

Conclusions: Fluvoxamine was the first SSRI to be registered for the OCD treatment and it is considered an important first-line therapy in its treatment (2). In spite of all this, fluvoxamine is only used in the 12% of the sample, so the results of the present study should be taken into

consideration when treating this disorder.

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P103

Effects of escitalopram on non-REM sleep after REM sleep deprivation in rats

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Background: The single platform-on-water (flower pot) method is extensively used for depriving rapid eye movement sleep (REMS). In this protocol, animals are placed onto a round platform, surrounded by water, the surface of which is above the water level. Whereas muscle atony is typical for REMS, they fall into the water and awaken immediately as they switch to REMS. The selective REM deprivation by this method causes a rebound increase in REM sleep at the expense of the total slow wave sleep. The selective serotonin reuptake inhibitor (SSRI) antidepressants increase extracellular serotonin concentration and suppress REMS. In this study, we raised the question how escitalopram (an SSRI) affects non-REM sleep during the three-hour-long 'rebound sleep' following sleep deprivation.

Materials and methods: Male Wistar rats equipped with electroencephalographic (EEG) and electromyographic (EMG) electrodes, after the recovery period, were placed onto flower pots for 72 hours. Following the deprivation, the animals were allowed to sleep for three hours after a 10 mg/kg escitalopram or vehicle (saline) injection administered intraperitoneally at light onset. During the three-hour-long 'rebound sleep', frontoparietal EEG, EMG and motility were recorded.

Results: We found that escitalopram treatment markedly increased the time spent in non-REM sleep compared to control, during the 'rebound sleep' following REMS deprivation. This alteration was caused by the elevated time spent in deep slow wave sleep (SWS2) in the escitalopram treated group, while in the light slow wave sleep (SWS1) no difference was found.

Conclusions: Our results suggest that escitalopram caused a significant increase in deep slow wave sleep during the 'rebound sleep'. This non-REM sleep elevation was probably caused by the escitalopram-induced REMS suppression.

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P104

Country Variation in Management of Patients with Bipolar Disorder in Daily Practice: Results from a Large, Multinational Longitudinal Study (WAVE-bd)

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Background: WAVE-bd (Wide Ambispective study of the clinical management and burden of bipolar disorder [BD]) aims to provide real-world data on current BD treatment practices across many countries.

Materials and methods: WAVE-bd is a multicentre, non-interventional, longitudinal study of patients diagnosed with BDI or II, with ≥ 1 mood event in the preceding 12 months (retrospective data collection) followed by a minimum 9 months' prospective follow-up. Patient selection was representative of BD populations in daily practice, from Austria, Belgium, Brazil, France, Germany, Portugal, Romania, Turkey, Ukraine and Venezuela.

Results: Overall, 2896 patients were included in analyses (BDI, n=1989; BDII, n=907). Lithium was prescribed in 24.8% and 30.8% of patients during depressive and manic events, respectively, with notable between-country variations (<7.5% of patients in Romania to $\geq 50.0\%$ in Brazil) for all events. Proportions of patients treated with antipsychotics were consistent across countries, with Romania and Venezuela prescribing antipsychotics for the highest proportion of patients ($\geq 75\%$). Romania and Turkey showed the lowest prescription rates of antidepressants, and Turkey and Ukraine the least anxiolytic/sedative/hypnotic use. Overall, the global incidence rate (IR [95% CI], person-years) of hospitalisations was 0.31 [0.29; 0.33] with notable between-country differences. The IR of psychiatrist and primary care visits was 9.46 [9.35; 9.56] and 0.97 [0.94; 1.01], respectively.

Conclusions: This study provides a multinational perspective on BD management in large population samples. While consistency in BD management was observed between most countries

for most events, notable differences were observed, particularly in Romania and Turkey.

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P105

Differing Treatment Practices in Bipolar Disorder: Analysis of Data from a Large Multinational Longitudinal Study (WAVE-bd)

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Background: WAVE-bd (Wide AmbispectiVE study of the clinical management and burden of bipolar disorder [BD]) aims to address the limitations of longitudinal BD studies to-date focused on single disease phases or treatments.

Materials and methods: Multinational, multicentre, non-interventional, longitudinal study of patients diagnosed with BDI or BDII with ≥ 1 mood event in the preceding 12 months (retrospective data collection from index mood event to enrollment, followed by a minimum 9 months' prospective follow-up). Site and patient selection provided a representative sample of patients in each country.

Results: In total, 2896 patients were enrolled (1989 BDI; 907 BDII). In patients with BDI, antipsychotics were the most commonly prescribed drug class during manic events (78.9% of patients), hypomanic events (72.1%), depressive events (63.9%), mixed events (72.1%) and euthymia (35.8%). Anticonvulsants were the second most commonly prescribed drug class in BDI patients for all event types except depressive events, where antidepressants were more commonly prescribed. In patients with BDII, antipsychotics were the most commonly prescribed treatment during hypomanic events (58.5%), while antidepressants were most commonly prescribed during depressive events (73.3%) and euthymia (36.6%). In total, 54.5% of euthymic patients were prescribed no medication. The percentage of patients prescribed no medication during an episode ranged from 5.1% during a mixed event to 8.9% during a hypomanic event.

Conclusions: In this longitudinal study, antipsychotics were the most commonly prescribed drug class for both BDI and BDII patients regardless of event, except in patients with BDII during depressive events and euthymia. More than half of euthymic patients did not receive medication.

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P106

Examination of relationship between stigmatization and social distance

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Background: Stigmatization is the assignment of negative perceptions to an individual which disables the stigmatized from normal social functioning. Stigma is an attempt to label a certain group of people as less valuable. Stigmatization is a two-way process and depends on the one who attaches stigma and the stigmatized. In the examination of this process it is necessary to include both groups of participants. The social aspect of stigmatization involves the social distance when speaking about the attitudes towards mental patients. The social distance is defined as "a various degree of understanding and feelings existing among the groups". The examination of social distance employs the relationship among the groups instead of individual attitudes.

Materials and methods: The investigation included 95 participants divided into three groups. The first group involved the participants with mental disorders identified as psychosis in duration over three years - 31 examinees. The second group of participants was composed of professionals - doctors and medical technicians who treat mental disorders - 32 participants. The third group included the general adult population - 32 participants. Semantic differential scale was used with the aim to examine the personal attitudes towards a stigmatized group. For the examination of social distance, the Bogardus Social Distance Scale was utilized, being slightly modified for the purposes of the examination of attitudes towards mental disorders.

Results: The results obtained using the semantic differential scale to examine the attitudes did not show statistically significant score which would point to the stigmatization of mental patients. The Bogardus Social Distance Scale score showed statistically significant difference ($p > 0.03$). Stratification of items on the social distance scale shows a great social distance in the sphere of intimacy but smaller distance in the sphere of impersonal social contacts.

Conclusions: The existence of social distance need not be caused by negative attitude towards a mental patient. The examination of this relationship can be useful in the planning of anti-stigma campaigns and under conditions when the social technology of the global society has no novel ideas and insights into the world of mental illnesses

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P107

The effect of training the critical thinking on students self esteem based on learning styles

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Background: Self esteem play essential roles in mental health. This study was aimed to assess the effect of critical learning model education on, self esteem, based on learning style.

Materials and methods: This was a quasi-experimental study carried out in Islamic Azad, Zarand Branch University students in 2010-2011 academic year. First a total number of 300 student randomly selected, then responded to learning style inventory. Base on there scores 80 students were selected, then underwent of critical thinking training. Self esteem of all participants were evaluated after the training. Data was analyzed using ANOVA and Dunken post hoc tests.

Results: Findings demonstrated a significantly higher increase in the mean scores of self esteem, in the active experimentation, reflective observation, abstract conceptualization and concrete experience groups, respectively in post interventional stage. There was found no association between gender and self esteem.

Conclusions: The results indicated that critical thinking model education was effective in enhancement of students' self-confidence, especially on expansion method. It is concluded that all psychologist should be consider the students learning styles.

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P108

Parental attitudes and internet dependence in high school students

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Background: The aim of the work was analysis of family factors that can interact with internet dependence of young people.

Materials and methods: Study group: 357 high school students from 16 to 19 years of age. Sociodemographic Inventory, Internet Addiction Test by Young, and our own Parental Attitude Questionnaire

Results: Boys in introductory phase of internet dependence in comparison with those not dependent, significantly more often inform that they feel unaccepted and not understood by parents. The girls in introductory phase of internet dependence significantly more often inform about their feeling of guilt of the parent's problems.

Conclusions: 1. Boys in introductory phase of internet dependence in comparison with those not dependent, significantly more often inform that they feel unaccepted and not understood by parents, they would like their parents to devote them as much time as internet chatters and that they escape from family problems to computer games.

2. The girls in introductory phase of internet dependence significantly more often inform about their feeling of guilt of the parent's problems. They want their parents devote them as much time as internet chatters. They don't discuss with their parents about their own problems because they don't want to worry them. They also feel lonely in families because of unacceptance and lack of support from parents. They also feel that they disappoint their parents.

P109

Internet addiction of the young people in Poland and comorbidity of abuse of psychoactive agents

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Background: There is some evidence for comorbidity of internet addiction and alcohol and other psychoactive abuse. (Yen & all. (2009) reviewed that 13% of internet addicted young people are also abusing alcohol. The aim of the work was to find relationship between internet dependence and alcohol and other psychoactive misuse by secondary school and high school students

Materials and methods: We analyzed 175 secondary school students and 357 high school students the mean age was 16.4 years.

Results:

89% of the students informed about alcohol consumption about other psychoactive agents 17%, and 29% were cigarette smokers. 12% of examined students had families with the problems of alcohol. The intensity of the internet dependence was measured by Internet Addiction Test of Young, other sociodemographic data, alcohol consumption and the use of narcotics were analyzed, based on our own scale

Conclusions: 1. Internet dependence of girls is associated with cigarette smoking and alcohol misuse of their family members.

2. The girls that drink bear and take narcotics prefer sexual impressions offered by internet then sexual contacts with the partner.

3. Internet dependence of boys coexists with cigarette smoking, misuse of cannabinoids and alcohol problems of their fathers.

4. The boys because of internet dependence neglect the family obligations and the time of sleep.

P110

Family factors and internet pornography usage by young people in Poland

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Background: The aim of the study was analysis of the family factors which can influence internet pornography usage of the young people.

Materials and methods: The study group: 357 high school students in the age from 16 to 19 years of age. Sociodemographic questionnaire, our own questionnaire based on which we could divide the study group into those who use the pornography web pages and who do not do it and our own construction Parental Attitude Questionnaire.

Results: There were statistically significant differences in term of family factors between boys and girls who use and do not use internet pornography.

Conclusions: 1. The boys who use the pornography web pages significantly more often than boys who do not use this web pages inform that internet allows them to run away from family conflicts and problems in relations with parents.

2. The girls who use the pornography web pages significantly more often than girls who do not use this web pages, inform about experiencing physical, emotional, sexual violence in the family, they find the internet the best escape from the problems in relations with parents.

3. The girls who use the pornography web pages report their mothers' weakness in the difficult life situations, they are convinced that they disenchant their mothers and they do not want to be similar women to their mothers in the future.

P111

Eating disorders of girls in the process of internet dependence in context of the family factors

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Background: The aim of the study was to compare intensity of symptoms of eating disorders in two groups of girls, high school students. One group was in introductory phase of internet dependence and the second was not dependent at all. We also took into consideration interdependence between the symptoms of eating disorders and girls relations with their parents

Materials and methods: The study group formed of 186 girls of 16 to 19 years of age. Based on the IAT by Young scale, the girls were divided in to two groups: 33 girls in introductory phase of internet dependence (IPD) and 153 not dependent at all. We used Young IAT, EDI of Garner, Olmsted and Polivy and our own Questionnaires: Family Pathological Interrelations Disorders Questionnaire and Disturbed Attitudes towards Eating Questionnaire

Results: 1. The girls in IPD use restrictive diets, laxatives, abuse alcohol, perform binge eating and are characterized by significantly severe depression.

2. The girls in IPD more often experience emotional and physical violence, rejection and indifference from their parents. They also believe that they can focus their parents' attention only when they are ill. They also more often form a coalition with mother against the father, they

take care of mother and protect her against the father.

Conclusions: The girls in IPD are characterized by significantly severe depression, often experience emotional and physical violence, rejection and indifference from their parents and they also believe that they can focus their parents' attention only when they are ill. They also more often form a coalition with mother against the father.

P112

Use of aripiprazole in a group of children with severe behavioral problems

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Background: Behavioral problems impose a great burden in patients' lives¹. Aripiprazole is a third-generation antipsychotic, effective in treating aggression in school-age children and adolescents with autism^{2,3}. Our study's aim was to retrospectively assess the use of aripiprazole in children with severe behavioral problems, including children of preschool age. This is the first study that addressed the issue of aripiprazole's use in a clinical sample that included children below the age of 5.

Materials and methods: The present study was conducted at the Day Center for Children with Developmental Disorders in Mesologgi, Greece. We reviewed all patients' charts from 2005 to the present day, to identify children with severe behavioral problems, who had been administered aripiprazole during their Day Center treatment.

Results: Eight children (7 males) were identified, 4 preschoolers and 4 school-age children, suffering from autism (7) or severe ADHD (1). Aripiprazole had been administered at 0.5-4mg/day, for 6-24 months. Positive effects were reported within the first days of treatment. No major side-effects had been reported and only 2 children had presented with increased appetite and bodyweight. Five children showed major or moderate improvement in behavior, attention and learning capacity, 2 initially exhibited remission but later relapsed and 1 child showed no clinically significant improvement. No significant differences were observed in response rates between preschoolers and school-age children.

Conclusions: Aripiprazole was well-tolerated and associated with major or moderate improvement in the majority of children. Preschoolers and school-age children responded equally to the medication. Further studies are, however, needed to determine aripiprazole's efficacy, especially in preschoolers.

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P113

Jerusalem syndrome: A case report

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Background: Jerusalem syndrome is a mental phenomena that involves the presence of either religiously themed obsessive ideas, delusions, or other psychosis-like experiences which are triggered by, or lead to, a visit to the city of Jerusalem. It is not restricted to any religion or denomination [1].

Materials and methods: A patient's case is presented, who was hospitalized in our clinic and whose range of symptoms could be classified as subtype II (ii) Jerusalem syndrome [2]

Results: The patient, a young man in the age of 30, was diagnosed with depression at the age of 20 but never received treatment, visited Jerusalem in order to become a "guardian of the Holy Sepulchre". He returned to Greece after one year, and was voluntarily hospitalized, suffering from anxiety, agitation and persecutory delusions. He was treated with paliperidone, diazepam and valproate, recovered within one week and returned home diagnosed with bipolar disorder. After 3 months of follow-up he continues his medical treatment and is free of symptoms.

Conclusions: Jerusalem syndrome needs to be distinguished from a first or recurrent psychotic disorder that requires long-term antipsychotic treatment. It is also characterized as a behavioural phenomena observed in eccentric and psychotic tourists [3]. Symptom-based approaches or careful withdrawal of antipsychotic drugs, after remission of individuals that received psychiatric treatment, should be attempted [1].

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P114

Association between caffeine plasma concentration and anxiety level in pharmacy students during examination time

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Background: Caffeine use is a common social habit nowadays. The following effects on behavior of adult humans may occur when individuals consume moderate amounts of caffeine. Caffeine increases alertness and reduces fatigue. This may be especially important in low arousal situa-

tions (e.g. working at night). Caffeine improves performance on vigilance tasks and simple tasks that require sustained response. Again, these effects are often clearest when alertness is reduced, although there is evidence that benefits may still occur when the person is unimpaired. Effects on more complex tasks are difficult to assess and probably involve interactions between the caffeine and other variables which increase alertness (e.g. personality and time of day). In contrast to the effects of caffeine consumption, withdrawal of caffeine has few effects on performance. There is often an increase in negative mood following withdrawal of caffeine, but such effects may largely reflect the expectations of the volunteers and the failure to conduct "blind" studies. Regular caffeine usage appears to be beneficial, with larger number of users having better mental functions. Most people are very good at controlling their caffeine consumption to maximize the above positive effects. For instance, the pattern of consumption over the day shows that caffeine is often consumed to increase alertness. Indeed, many people do not consume much caffeine later in the day since it is important not to be alert when one goes to sleep. In contrast, in certain individuals (e.g. patients with anxiety disorders) the normal intake of caffeine can have negative effects. There are reports that have demonstrated negative effects when very large amounts are given or sensitive groups were studied. Ultimately, caffeine has been shown to increase anxiety and impair sleep. There is also some evidence that fine motor control may be impaired as a function of the increase in anxiety. Regarding to seen controversies in this era, we performed this study to determine the association between caffeine concentration amount and anxiety level.

Materials and methods: In this cross-sectional study, 30 students from The School of Pharmacy, Islamic Azad University were recruited. Selection was in a simple random manner and all were satisfied to incorporate in the study and completed the questionnaires. The exclusion criteria were having background psychology disease, pregnancy, anemia, and history of drug (especially neurological drug) usage.

The study was approved by the ethical committee of the university in accordance with good clinical practice and the declaration of Helsinki. Understudy variables included age, sex, marital status, amount of caffeine use, overdose symptoms, caffeine level according to high- performance liquid chromatography (HPLC), and anxiety severity according to the Hospital Anxiety and depression Scale (HADS) Questionnaire. The HADS is a widely-used 14-item self-report scale designed to briefly measure current anxiety and depressive symptoms in non- psychiatric hospital patients. It excludes somatic symptoms, therefore avoiding potential confounding by somatic symptoms (Snaith and Zigmond 1994). There are independent sub-scales for anxiety and depression. Scores on each scale can be interpreted in ranges: normal (0-7), mild (8-10), moderate (11- 14) and severe (15-21). A score of 8 or above was considered to indicate depression for the IDACC project, consistent with other cardiac patient samples .The HADS is considered to be valid measure of anxiety and depression in patients with myocardial infarction and its high test-retest reliability make it suitable for monitoring these symptoms. Snaith R (2003) regards scores of 11 or higher to indicate probable 'caseness' of mood disorder on the anxiety or depression sub-scales, and a score of 8-10 being just suggestive of a disorder.

5 milliliter (5 ml) of venous blood was sampled and centrifuged 30 minutes to separate the serum. Then 125 ml of plasma sample plus 125 microliter methanol plus 7.5 microliter zinc sulfate 17% were inserted in a micro tube and vortex process was performed for five minutes and then centrifuged (14000 RPM) for ten minutes to separate the proteins. The supernatant was extracted and filtered from a 22 micron membrane and 50 microliter was infused to HPLC to observe the peak. For standard solution a 10 milligram (m/g) per milliliter of stoke solution was prepared with one microliter of stoke solution and 999 microliter of caffeine-free plasma sample for developing a 10000 nano gram (N/g) per milliliter, ten microliter of stoke solution and 990 microliter of caffeine-free plasma sample for developing a 1000 N/g per milliliter and

also other concentrations including 500, 250, 100, 50, 25 N/g per milliliter were prepared with a similar menu. The HPLC was mobile phase KH₂PO₄ 0.01 molar and methanol 64/36 with flow of one and wavelength of 254 nanometer and pH of 7.4. For KH₂PO₄ the mobile phase was prepared with phosphoric acid with pH 3.5 monitored by pH meter.

After data collection the statistical analysis was performed using SPSS software using the ANOVA and Spearman Linear Regression tests. A P value of less than 0.05 was considered statistically significant.

Results: The mean age of the individuals were 22.2 ± 5.2 years .10 individuals (33.3%) were male and 20 individuals (66.7%) were female. Two subjects (6.7%) were married. The mean amount of caffeine use was 2.2 ± 1.7 cups per day. A part from two (6.7%) were reported over-dose symptoms. Eight students (26.7%) had no anxiety, but the anxiety was mild in 11 subject (36.7%), moderate in 6 students (20%), and severe in 5 subjects (16.7%). The mean caffeine concentration was 901.48 Ng/ml. As shown in Table 1, there was no significant difference between anxiety level and caffeine concentration ($P=0.567$). Furthermore, no linear association was found between HADS score and caffeine concentration ($P=0.643$).

Conclusions: According to the obtained results, it may be concluded that there is no clear association between caffeine use and anxiety among students. However further studies should be carried out to obtain more definitive results especially in larger sample population and longer follow-up periods.

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Cerebrospinal fluid monoamine metabolite levels and bipolar disorder suicidality

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Background: Suicide is a major public health issue in many developed and developing countries is an important cause of premature death and is increasing. One of the most important factors associated with increased risk of suicide is mental illness.

Bipolar disorder is strongly associated with suicidal behavior. The suicide rate in bipolar disorder individuals is approximately 20fold greater than that of the general population. A biological predictor of suicide attempts in patients with bipolar disorder would be valuable.

Materials and methods: Literature review of relevant articles that were searched in electronic databases. The words used as search terms were monoamine metabolites, bipolar disorder and suicide.

Results: According to the literature low levels of cerebrospinal fluid monoamine metabolites are strongly associated with suicidal behavior in bipolar disorder. Some studies even suggest that can be used as predictors of completed suicides. These results concern both 5-hydroxyindolacetic acid (5-HIAA) and homovanillic acid (HVA) levels and are consistent with multiple reports suggesting that serotonergic abnormalities are involved in the neurobiology of suicidal behavior.

Conclusions: The research on the topic seems to agree on the impact of cerebrospinal fluid monoamine metabolite levels in suicidal behavior. Therefore, it is reasonable to hypothesize

that in combination with other biological and clinical markers of suicidal behavior may help predict and prevent suicide in some patient populations. However the number of the studies is not large enough and in the future more must be conducted.

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Exploring Public Awareness of Child Abuse in Greece

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Background: Child abuse is a growing problem despite adults' obligation to provide protection and best quality of well-being. The abuse can take place in the home where the bruises can easily be hidden and many risk factors may contribute to that. Therefore, the aim of the study explores whether there is public awareness of the problem

Materials and methods: A quantitative approach was used and the statistical programme excel was implemented. Out of 100 adults 99 (59male and 60 females) answered the questionnaire. 60% were between 30 to 40 years (range 20-60). All married with at least one child. The research consisted of questions on the following topics: How many parents do abuse their children? Who are the victims (boys or girls)? Why do parents punish their children? What are the risk factors that lead parents to abuse their children?

Results: 66% of the respondents believe that parents physically abuse their children during their upbringing on regular basis. It was indicated that more boys (50%) are punished than girls (42%) and 8% said they do not know. Reasons: Because boys tend to fight more with siblings (13, 8%), lie to parents (12, 3%), are rude (10, 8%) or naughty (20%). It was acknowledged by all (99) participants that risk factors, such as sociocultural (16, 2%), financial problems (8, 2%), bad relationship between parents (10, 6%), lack of parental skills (10, 6%) and psychiatric disorders (10, 1%), contribute to the parents being abusive towards their children.

Conclusions: The phenomenon of child abuse has for a long time been recorded in Greece, although the issue has not received widespread attention by the general public. The data from this study suggests that child abuse is present in Greece and the public may be aware of the risk factors that contribute for the abuse to take place. Further research may be essential to investigate the methods of intervention.

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Applying Biobehavioral Model in a young asthmatic patient: Case Study

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Background: The causes of asthma are unknown. Onset and course in a genetically vulnerable child are likely determined by a complex interaction of genetic vulnerability (Wills-Karp & Ewart, 2004), environmental exposure to respiratory infections, allergens, irritants, or environmental smoke and psychological influences such as maternal distress and family dysfunction. We will present a case study of a 15 year old female adolescent, wherein the Biobehavioral Family Model (BBFM), a model of family relational stress, was applied to treat her intractable asthma (Wood et al. 2008).

Materials and methods: The patient was treated by a physician for asthma and by a psychologist (first author) for her emotional and family difficulties. Psychotherapy lasted 6 months (weekly sessions), with planned follow-ups. Process notes organized information from interview and observation of the patient and her family.

Results: The concept of “biobehavioral reactivity” from the BBFM was key in the treatment. This concept enabled the patient to identify and understand her “psychosomatic” vulnerabilities. She kept a diary, sequencing family interaction patterns and how they made her feel and affected her asthma. The diary helped her recognize which BBFM family relational stressors worsened her asthma. Therapy helped her develop adaptive coping strategies.

Conclusions: In this case, family relational patterns which impacted the patient’s emotional and physical compromise were consistent with findings of research testing the BBFM. The fact that the patient’s health improved through psychotherapy focusing on these family patterns, without any changes in her medical-pharmaceutical care, constituted important evidence for the important role these factors played in the course of her asthma.

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P118

Comparative research on the impact of the discipline methods that family practices on children of average childhood

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Background: In recent years, there have been accomplished numerous studies which have shown that parental discipline practices affect on behavior, feelings and therefore on children's self-esteem.

Materials and methods: 250 students boys (n=122) and girls (n=128) in fifth and in sixth grade in 9 primary schools of Patras took part in the questionnaire about the outcome of the investigation and the two tools (the test of domestic relations of Bene - Anthony (FRT) and Coopersmith's questionnaire of self-respect) who served as auxiliary lines for the creation of the questionnaire.

Results: The most common practice of punitive discipline is the use of psychological violence (voices) at a rate of 48.4% for students in fifth grade and 52.8% for students in sixth grade. Regarding the children's feelings to family members who carry out punitive discipline practices were found to dominate the two negative emotions, anger /rage (24.5% and 24% of pupils accordingly) and sadness (26.2% and 21.5% of pupils accordingly). Also, the reaction of children (crying 42% and 45.3% for students accordingly) is influenced by the emotions generated from the punitive discipline practices. The 70% of pupils in fifth grade and 58% of pupils in sixth grade feel very pleasant to the company. Finally, 26% in fifth grade take decisions easily while 32.2% of pupils in sixth grade were a "little" reluctant to take decisions.

Conclusions: Consequently, the discipline practices actually affect the fields of child development. The concept of discipline should not be equated with punishment as well as discipline is a way to teach the children acceptable ways of managing their emotions and desires.

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The utility of the Metacognitions Questionnaire-30 in the psychological assessment of patients with obsessive-compulsive disorder

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Background: Maladaptive metacognitions as a possible component of cognitive activity in obsessive compulsive disorder have been gaining a growing amount of literature over the past decade [1]. Pathological metacognitions in OCD patients -compared to healthy subjects- have already been supported with the widely used metacognitions questionnaire MCQ-30 [2]. The aim of the present study was to discriminate between OCD patients and healthy controls using the MCQ-30 and its subscales.

Materials and methods: 44 patients with OCD and 41 -matched for age and education- healthy controls completed the greek version of the MCQ-30 [3]. A discriminant analysis attempted to classify the subjects into the OCD or healthy group, taking into account the predictive value of the 5 MCQ-30 subscales.

Results: Subscales “Uncontrollability and Danger” and “Need to Control Thoughts” served as significant predictive variables in the discriminant function. The function generated correctly classified 86% of the subjects into the healthy or OCD group. Performing a receiver operating characteristic curve for Metacognitions as a total, a cut-off score ≥ 64 showed 87% sensitivity, 84% specificity, 85% positive predictive value and 87% negative predictive value. For the “Uncontrollability and Danger” subscale, a criterion ≥ 12 had 88% sensitivity, 88% specificity, 85% positive predictive value, and 90% negative predictive value.

Conclusions: The Metacognitions Questionnaire-30 could serve as a strong clinical instrument for the initial psychological assessment of a patient with symptoms on the obsessive-compulsive spectrum. It would be very useful to further investigate the discriminant value of the MCQ-30 between OCD and other psychiatric disorders.

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P120

Television and video games' use in childhood in relationship to school progress and family environment

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Background: Television and video games' use are implicated to many childhood disorders, such as obesity (Salmon et al., 2005). Internet addiction is increasing in childhood. Association of Family environment and learning disabilities with video games and television viewing are less investigated.

Materials and methods: The goal of this study is to investigate the effect of television and video games' use during free time and school progress of children. 102 children, boys and girls took part in the study. Their age was 10 - 13 years old. Data were collected with a questionnaire which was filled in an anonymous way. The sample was taken in random order. Spearman and Kendall correlation (two - tailed testing) was applied

Results: The time spent on television ($r = -0.144$, $p = -0.176$, level of significance 0.1) and video games ($r = -0.185$, $p = -0.217$, level of significance 0.1) had a weak negative effect on school progress. Besides, the more time they spent on activities, the better marks they achieved ($r = 0.144$, $p = 0.192$, level of significance 0.1). The time the family spent together effected positively on school grades, even the correlation was still weak ($r = 0.218$, $p = 0.251$, level of significance 0.05). The parental control on television was obvious on children with excellent marks.

Conclusions: The time spent on television and video games seem to influence negatively school performance. Further research investigating television and video games' relationship to learning disabilities is suggested.

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Online Child Sexual Abuse: A Greek Reality

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Background: The rapid development of the internet in contemporary Greek society brought more and more people interested in its use, including children. Despite its benefits, a proportion of the public seem to feel angry because of its morbid situation, especially to children users. As children have easy internet access, they come across with sexual activity which may

have the impact on their lives. This study aims to investigate the effects the internet may have on children.

Materials and methods: The study was exploratory in nature and quantitative in design. Hundred Pupils (78 boys and 22 girls), internet users from 5 private schools completed the questionnaire. The age range of the 63% was 15 to 17 (total range 12-18). Respondents came from two Greek cities (Komotini and Patras) and the research took place during February and April 2011. Data were analysed through excel statistical programme.

Results: According to results 35% (64% were boys and 13% girls) have visited pornographic material on line. When 35% were asked how often they visit pornographic material on line, 1% replied said quite often, 4% frequently, 5% often and 24% rarely. The responses to next question were that out of 100%, 23% (1% frequently, 4% some times, and 18% rarely) were sexually abused. Those who were sexually abused on line were asked how they coped with the situation, their replies were as follows: 11% discussed it with their parents, 1% with a teacher and 16% with a friend.

Conclusions: On line pornography and child abuse is a phenomenon of great concern for parents and the society in general, despite the fact that internet has brought great benefits to people. Further research may be important to investigate parental views.

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How students cope with academic stress and stressful life events

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Background: Students often have to cope with very stressful situations. Coping strategies towards stress are investigated so that students could be empowered and learn more effective coping strategies (Moran et al.2006)

Materials and methods: The purpose of our study is to investigate the coping strategies used by students facing academic stress in four different departments of TEI of Patras, Greece.

294 participants, 53 men and 241 women studying in four different Departments, were randomly selected independently from origin, family or socio-economic status. Their average age was 19.89 years old. The sample was taken in random order and the questionnaire was filled in an anonymous way. Normality was assessed through Kolmogorov - Smirnov test. T-test and two-way ANOVA were used in data analysis. Pearson correlation was applied as well.

The investigation tool used was 'Echelle Toulousaine de Coping'(Tap et al.1993) adjusted by Theodoratou (2006).

Results: The results indicated that there was no significant difference between men and women in the Focus ($t = -0.92$, $df = 292$, NS), Control ($t = 0.11$, $df = 292$, NS) and Denial strategy ($t = -1.40$, $df = 292$, NS). Statistical analysis revealed that there were significant differences for the others strategies and specifically, the mean value in women was higher than the mean value in men. There were no significant differences between the Departments of studying and there was no correlation between age and coping strategies since all participants belonged to the same age of group.

Conclusions: The results showed that there was statistically significant difference between men and women in most types of coping strategies therefore women tend to generally apply more coping strategies than men. This fact should be investigated in future research

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Precursors of learning disabilities in adults with mental disorders

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Background: Emotional and behavioral difficulties have been reported in individuals with developmental learning disorders at a higher rate than people who do not face similar difficulties. Although there is still an absence of longitudinal studies on the development of mental disorders, recent researches associate learning disorders and Attention-Deficit Hyperactivity Disorder in school-age children with the manifestation of psychiatric disorders in adult life.

Materials and methods: This research aims to explore the precursor characteristics of the co-occurrence of learning disabilities and mental disorders at an early stage, and to highlight their common characteristics in the genetic and neurophysiologic profile, thus minimizing the possibilities of mental disorders manifestation in adults.

The data were derived from a large-scale stratified sample of adults hospitalized from 1980 to 2008 at the Psychiatric clinic of the University Hospital of Ioannina. Three thousand reports were coded and analyzed.

Results: A cross-tabulation chi square analysis indicated a statistically significant correlation between primary school academic performance and specific developmental disorders along with high dropout rate from secondary school. The results also showed an inverse relationship between participants' academic level and the onset of the mental disorder.

Conclusions: This study lays the foundation for continued research into the precursor characteristics of the co-occurrence of learning disabilities and mental disorders at an early stage. It also indicates that learning disabilities are significantly associated with emotional difficulties which are a significant predictor of psychiatric disorders.

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Validation of Coping strategies Evaluation Scale: Research upon 1000 greek students

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Background: Research upon coping strategies is increasing, as stressful factors influence negatively people's mental health (Dumont & Provost, 1999, Lo, 2003). Students' coping strategies in Greece are evaluated mainly by Counseling Centers in Universities.

Materials and methods: The purpose of our study is to investigate the coping strategies (action, information, emotion, positive strategies, negative strategies, total coping strategies, focus, social support, withdrawal, change, control, and denial) used by students facing stress in five major cities in Greece.

990 participants, men and women, were randomly selected independently from origin, family or socio-economic status. Their average age was 20.27 years old. The sample was taken in random order and the questionnaire was filled in an anonymous way. Normality was assessed through Kolmogorov - Smirnov test. T-test, ANOVA and Pearson correlation were used in data analysis.

Results: The results indicated that there was no significant difference between men and women in the Control ($t=1.33$, $df=988$, NS) and Denial strategy ($t=-0.79$, $df=988$, NS). There were significant differences for the others strategies and specifically, the mean value in women was higher than the mean value in men. It was found that there was no significant difference between students who come from South Greece and North Greece besides the Emotion ($t=3.030$, $df=988$, $P<0.01$) and Focus strategy ($t=3.415$, $df=988$, $p<0.001$). There were no significant differences between the areas the students come from (rural, semi-urban and urban areas) and there was no correlation between age and coping strategies. However, there were differences in strategies between the different cities.

Conclusions: Students' coping strategies should be investigated in future researches in order to support the more stressed and/or depressed students.

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P125

Refugees' coping strategies towards stressful life events

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Background: Stress and coping research provides ample evidence demonstrating that psychological manifestations of social stress are significantly mediated by personal coping behaviors (Lazarus & Folkman, 2000).

Refugees' coping strategies are investigated, given that being a refugee may be related to depression by focusing on personal coping responses. However, strategies such as acculturation and ethnic social support, moderate the impact of negative experiences on mental health and adjustment (Noh & Caspar, 2003).

Materials and methods: During the research process 99 Refugees were participated: 62 males and 32 females. Their countries of origin were: Ivory Coast, Afghanistan, Zaire, Eritrea, Iraqi, Iran, Cameroon, Mauritania, Miramar, Nigeria, Palestine, Sierra Leone, Senegal, Somalia, Sudan, Sri Lanka, Syria and Turkey.

The respondents were not asked about their family situation, neither their academic standards. The only obligation to the research, they had to be over 18 years old. The coping strategy scale of "Echelle Toulousaine de Coping" (Tap et al. 1993) as research tool was used and was consisted of 54 questions. All participants were interviewed by the agency social worker. The aim of the study was to explore how the Refugees use the coping strategies to manage with their multiple difficulties which are connected with migration situation.

Results: The research findings revealed that the Refugees who visit Medical Health Centres use a wide range of coping strategies. The main strategies used were social support (65%), behavioral change (55%), faith in God (80%) and the effort to control negative emotions (40%).

Conclusions: The team believes that given the complexity of social conditions the data of this survey is useful in the field of counseling

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Attention Deficit disorder in adults

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Background: Attention Deficit, a developmental disorder is a apparent in adults as well as chil-

dren (Wolf,2006). As a result efficiency in adult learning the work force as well as the home and in any communicative environment is affected.

Materials and methods: The aim of this study is to investigate whether young adults studying in higher education display symptoms of Attention Deficit. Two hundred T.E.I students of Speech Therapy (ST) and Social Work (SW) were questioned on Attention Deficiency Disorder (ADD) in adults. Respondents were selected randomly in terms of origin, marital and socioeconomic status.

Results: A higher proportion of SW, 21%, students felt dissatisfied with their achievements unlike ST students, 12%. Likewise twice as many SW students, 21%, displayed focus attention disorder than ST students, 10%. A significantly higher number of SW students,15%, could not understand and maintain a lengthy discussion compared to ST students, 6%. They were also highly vulnerable to mood swings, 32%, increased motor activity and daydreaming, 30%. Difficulties in organizing their thoughts and impulsive responses in communicative situations were also a more prominent characteristic of SW students. Twice as many SW students compared to ST students, 12% and 6% respectively, displayed an inability to complete tasks efficiently and prioritize information.

Conclusions: The findings suggest that different teaching techniques should be tested to facilitate better learning while better work performance would be achieved in particular environments.

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P127

How adolescent and young persons face stressful life events? Research upon 600 Greek adolescents and young students

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Background: The exposure to stressful life events may cause depression or even suicide and suicide attempts to young persons(Kessler,1997,Brent et al.1993)

Cultural, sociofamilial, and psychological resources could inhibit psychological distress to young persons exposed to stressful life events(Utsey et al.2008).

Materials and methods: The present research aims to examine which factors influence adolescents and young students from 15 to 25 years old. Moreover, whether teenagers know about positive thinking and how they cope with various situations in their lives.

In this research the total number of the participants was 600 (279 senior high school students and 321 university/TEI students at the municipality of Patras). The sample was taken in random order and the participation was optional and anonymous. The questionnaire administrated, was created through the study of relevant bibliography and the study of relevant questionnaires.

Results: According to the statistical analysis a strong 'neutrality' of the population was noticed. Based on the Index of the Positive Thinking the results were as follows:

- 6,2% of people surveyed were identified as 'negative'
- 41% were characterized as 'slightly negative',
- 49% were characterized as 'slightly positive'

- 3,8% were characterized 'positive'.

Finally, 47,2% of the subjects had negative attitude towards life's stressors and 52,8% of the subjects had positive attitude towards stressful life events.

A statistical correlation between positive thinking and the other factors (sex, age, educational level, home place, family situation and economic situation of parents) was not proved.

Conclusions: Adolescents and young students are influenced by a lot of factors in order to face life stressful events. Further research could focus on those factors detailed investigation and intervention designs. As a result, adolescent and young persons could be empowered to cope more effectively with stressful life events.

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Sleep disturbances in children with attention-deficit/hyperactivity disorder (ADHD)

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Background: Attention-deficit hyperactivity disorder (ADHD) is a complex, heterogeneous childhood disorder. Significantly more children with ADHD demonstrate single or multiple sleep disturbances as well as higher rates of specific sleep disorders, such as initial and middle insomnia. Main objective of this survey is to elucidate the nature of the relationship between sleep disturbances in children with attention-deficit/hyperactivity disorder (ADHD).

Materials and methods: Published articles in "Pubmed", "Medscape", "Science Direct" and "Embase" databases, during the period 1981-2010. Narrative literature review of published articles on these websites, using the following key phrases: "sleep disturbances in children with attention deficit/hyperactivity disorder", "sleep patterns in hyperkinetic and normal children".

Results: Children with ADHD may be chronically sleep deprived, although sleepiness is greater, especially in the ADHD-I type. Furthermore, they have a total sleep time (eight hours) that is much shorter (33minutes), than that of controls. Children with ADHD usually complain about sleep walking, night terrors, confusional arousals, chronic snoring, leg discomfort at night, periodic limb movements in sleep (PLMS) and an average rapid eye movement (REM) sleep time, significantly reduced by 16 minutes (comparing to that of controls).

Conclusions: Sleep disturbances are very prevalent among the pediatric age range and can lead to substantial behavioral and cognitive consequences that may mimic ADHD. Conversely, children with ADHD may suffer from significant sleep disturbances that may originate in the biochemical disorders, which underlie their deficits in executive function and attention. These findings raise important questions regarding the association between ADHD and disturbed sleep and pose many challenges in clinical practice, which aspire to highlight important areas through future study.

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P129**Mozart effect and memory in elderly**Vaitsa Giannouli

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Background: The aim in undertaking this study was to investigate the influence of classical music on human auditory short-term memory.

Materials and methods: Eighteen middle-aged and elderly women with no formal music education participated in the study. Their mean age was 79,38 years ($SD=8,85$, range 62-95) and level of education 6,27 years ($SD=2,39$). They were grouped based on their Mini Mental State Examination (MMSE) score, yielding 10 high and 8 low scorers, with no formal diagnosis of psychological/psychiatric or neurological diseases. They participated in all 3 ten-minute conditions of the experiment which were Mozart's Allegro con spirito K.448, Beethoven's Rondo-Allegro opus 61 and ten minutes of silence without any recorded acoustic stimulus. The individuals were randomly separated in six groups. The examination material were three improvised groups of series consisted of one-digit numbers from 2 to 9 digits, which were read in a rate of one digit per second.

Results: Results indicated that the majority of the participants did not show any increase in the number of digits that they could recall due to the listening of Mozart's piece. Also, no statistically significant difference was found between the three conditions associated with listening to a morphologically similar excerpt by Beethoven.

Conclusions: Even though the influence of Mozart's music (Mozart effect) is hypothesized to improve human spatial abilities, memory performance of elderly is not influenced. This could imply that pathetic music listening can not be used in order to change the auditory digit span.

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Life events and dementia: What is the nature of their relationship?

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Background: Recently a positive relationship between stressful life events and dementia was reported. The possible relationship between life events and dementia could be explained and mediated through the early development of depression.

Materials and methods: The current study reanalyzed the life events reported by 1271 demented patients vs. 140 cognitively healthy elderly subjects from a previously published study. The Life Change Unit (LCU) method was used to quantify the results.

Results: When all the events were included in the analysis, the two groups had similar LCU scores (61.26 vs. 63.42). However, when events causally related to dementia (e.g. stroke) are excluded, demented patients were found to experience half of the LCU load in comparison to controls (30.70 vs. 63.42). In both groups the level of LCU load is far below 100 which is the threshold suggested for the induction of psychosomatic disorders.

Conclusions: Conclusively, the current study suggests that there is no causal role for life events in the etiopathogenesis of dementia. On the contrary, demented patients even the last few months before the clinical onset of dementia experience low life-events related stress, possibly because of subclinical impairment which is already present.

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Tardive Tourette-like Syndrome: A systematic review

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Background: Tardive Tourette Syndrome is characterized by the occurrence of multiple motor and vocal tics in patients on longterm neuroleptic, antiepileptic medication or stimulants, and was first reported by Golden in 1974 and was given its name in 1980 by Steven Stahl who linked it to tardive dyskinesia.

Materials and methods: The MEDLINE was searched with the combination of the words 'tardive' or 'induced' or 'late' and 'Tourette' or 'Tourettism'

Results: 375 papers were indentified; 42 of them were judged to be relevant. Forty-one cases were identified, caused by antipsychotics, antiepileptics, stimulants and other medication.

Conclusions: It seems that Tardive Tourette Syndrome appears after long-term neuroleptic therapy, it improves transiently by an increase in the dosage of neuroleptics and exacerbated by their decrease; it is also exacerbated by dopaminergic and anticholinergic drugs, and tardive dyskinesia is often seen concomitantly. A number of treatment options are reported in the literature but no systematic study of the syndrome has been done yet.

P132**Oppression's diagnosis: Corresponding emotion with expression as "Exodus" feeling in the face of child / neuropsychological assessment of expressing emotions in the children**

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Background: Difficulty to explain the feelings is additionally caused by the lack of correspondence emotion / expression, in likely oppression. Purpose of this qualitative research is to study "exodus" of emotion in the face.

Materials and methods: In a sample of 144 children (6, 9, 11 years old, 24 boys and 24 girls in each team), their effort to express as accurately as possible the emotion which was provoked by the audition of correspondent pieces of music to rouse emotionally them, and a factitious, after a specific point, admission of a disgusting intellectual picture of their choice during the audition were video-recorded, registered (at the end of each phase, with the greatest accuracy) what the child felt on average during the audition in a 7-grade scale. Judges (2 men, 2 women) watched the video-cassette without sound and they marked as accurately as possible what emotion and in which grade the children expressed.

Results: Statistical (Wilcoxon and Mann-Whitney tests, $p < 0,05$) analysis shows that inserted, at least the intense, negative thoughts are certainly able to block the evolution of already started (mainly positive) emotions as an experience of the person and as an expression on their face, in children years old mainly 9 (mainly, girls: sadness, boys: happiness), but in 6 the relative neurons of the face aren't yet matured and in 11 psychosocial reasons decrease expressing emotions: experience > expression / 6 < 9 > 11.

Conclusions: The younger the person is, the more difficult the explanation of messages of the face is, complicating oppression' diagnosis in children.

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P133

Psychopathological Symptoms in Patients who visit Primary health Centers

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Background: Primary Health Care is the first entry with the health system, it is easily accessible and offers immediate contact with patient.

A number of patients who come and seek for medical help often suffer from anxiety or psychosomatic disorders which haven't been diagnosed.

Materials and methods: The goal of this study is to investigate that patients in Primary Health Care suffer from anxiety and psychosomatic disorders because of the existence of somatic or psychological problems and the way that psychosomatic disorders are related to difficult living conditions, to social and economic level conditions, to education and quality of life. 101 patients with psychosomatic disorders took part in the study. Data were collected with a questionnaire which was filled in an anonymous way.

Results: The majority of patients suffer from psychosomatic disorders such as chest pain 39,60%, tachycardia 30,69%, headache 30,69%, dyspnea 36,63%, dizziness 32,67%, confusion 29,70%, abstraction 28,71%, tiredness 41,58%, anger 22,77%, inexplicable fear 27,72%, sensitivity 26,73%. Percentage 22,77% suffer from family problems, 29,70% has basic education, 33,66% has permanent job.

Conclusions: The existence of mental services in Primary Health Care is important so as to provide services for the detection and promotion of psychosomatic disorders.

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P134

The effect of EMFs at the low frequency (10Hz, 30Hz) on learning and spatial memory of Mice

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Background: Studies show that usage of electromagnetic field at the low frequency can be effective on brain physiological process. Therefore, the aim of this study is evaluation the effect of EMFs on learning and spatial memory.

Materials and methods: First number 30 Mice were completely divided to 3 groups (2 experimental, control). Exp1 was group that 20 min exposure to EMFs (Intensity 2μT, 10Hz). Exp2 was group, 20 min exposure EMFs (Intensity of 2μT, 30Hz). To similar condition control group about 20min situated in the EMFs apparatus and therefore, MWM was scaled.

Results: The result show that Mice exposed to EMFs with constant intensity 2μT and frequency 10 and 30 Hz significantly from control group in duty of spatial memory condition better and rapid (p<0.05).

Conclusions: From this experimental test can be conclusion exposure Mice in EMFs with low in-

tensity and under frequency than cuion town cause to facilation of learning and spatial memory of Mice

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We thanks with ferdowski university for useful support

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P135

Psychosis susceptibility gene ZNF804A in Schizophrenia patients in North Indian population

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Background: The high-risk ZNF804A variant had impact on brain functional dysconnectivity between dorsolateral prefrontal cortex (DLPFC) and hippocampal formation during an N-back memory task in healthy subjects. This altered connectivity between DLPFC and hippocampal formation might be a basis of human memory function. Patients with schizophrenia have pronounced deficits in the aspects of neurocognitive function such as speed of processing, attention/vigilance, working memory, verbal learning and memory, visual learning and memory, reasoning, problem solving, and social cognition. Memory deficits are prominent trait markers of schizophrenia, with impairments also observed in first-degree relatives.

Materials and methods: 50 unrelated chronic schizophrenia patients (30 male and 20female; mean age: 52.8±11.6 years; mean duration of illness: 26.1±11.3 years; mean age of onset: 26.8±8.1 years) and 80 normal controls (42 male and 38female; mean age: 54.9±6.9 years) were enrolled in our study. Diagnosis of schizophrenia patients was according to Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria with consensus based on the clinical interviews and case records. PCR-Snap Shot technique was used for genotyping.

Results: Significant differences were seen in the genotype distribution ($\chi^2 = 6.10$, d.f. = 2, $p = 0.04$) and allele frequencies ($\chi^2 = 5.14$, d.f. = 1, $p = 0.02$; odds ratio = 0.57 95% confidence interval = 1.09-3.48) between the patients and controls.

Conclusions: A significant ZNF804A (rs1344706 A>C) genotype and allelic frequency was found in North Indian patients having schizophrenia. Patients with high risk T/T genotype scored significantly lower on VisM than G carriers (T/G and G/G).

Acknowledgements:

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P136

Development of the Risk Assessment Suicidality Scale (RASS): a population-based study

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Background: Suicide and suicide attempts are significant and costly public health problems. In order to prevent suicidal and other self-injurious behavior, research on the multiple factors involved in these behaviors with comprehensive but also user-friendly instruments is necessary. The aim of the current study was to construct a self-report instrument with emphasis on items describing suicide-related behavior itself rather than strongly related clinical features on the basis of a general population study.

Materials and methods: Twelve items comprising a new scale were applied to 734 subjects from the general population (40.6% males and 59.4% females) aged 40.8±11.5 along with the STAI and the CES-D. The scoring method was developed on the basis of frequency table of responses to the individual scale items.

Results: The factor analysis returned 3 factors explaining 59.19% of total variance (Intention, Life, and History). The Cronbach's alpha was 0.85 for the Intention, 0.69 for the Life and 0.52 for the History subscale.

Conclusions: The RASS is a reliable and valid instrument which might prove valuable in the assessment of suicidal risk in the general population as well as in mental patients.

P137

Receptor targets for antidepressant therapy in bipolar disorder: An overview

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Background: The treatment of bipolar depression is one of the most challenging issues in contemporary psychiatry. Currently only quetiapine and the olanzapine-fluoxetine combination are officially approved by the FDA against this condition. The neurobiology of bipolar depression and the possible targets of bipolar antidepressant therapy remain relatively elusive.

Materials and methods: We performed a complete and systematic review to identify agents with definite positive or negative results concerning efficacy followed by a second systematic review to identify the pharmacodynamic properties of these agents.

Results: The comparison of properties suggests that the stronger predictors for antidepressant efficacy in bipolar depression were norepinephrine alpha-1, dopamine D1 and histamine antagonism, followed by 5-HT_{2A}, muscarinic and dopamine D2 and D3 antagonism and eventually by norepinephrine reuptake inhibition and 5HT-1A agonism. Serotonin reuptake which constitutes the cornerstone in unipolar depression treatment does not seem to play a significant role for bipolar depression.

Conclusions: Our exhaustive review is compatible with a complex model with multiple levels of interaction between the major neurotransmitter systems without a single target being either necessary or sufficient to elicit the antidepressant effect in bipolar depression.

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Antidepressant drugs and the response in the placebo group: The real problem lies in our understanding of the issue

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Background: In the last decade a number of meta-analyses disputed the clinical usefulness of antidepressants by reporting that their efficacy is rather low, and is related to initial severity of depression. They suggested that only the most severely depressed patients should receive medication treatment.

Materials and methods: We performed a reanalysis of data and searched the literature for relevant publications. There is only a limited number of papers, however they all contribute significantly to the solving of the debate

Results: According to all meta-analysis, irrespective of the method used, antidepressants have an effect size of 0.32-0.35 vs. the placebo. This effect size is of rather medium magnitude but it is stable and can not be disputed. Most meta-analysis suggest this effect is beyond the threshold for clinical relevance only at the most severe end of the sample. However a closer interpretation of the results shows that medication is always superior to placebo across the entire severity spectrum. Also most analysis seem to overlooked the mathematical coupling between initial values and change, thus reporting an inflated relationship. This inflated relationship led to erroneous interpretation. The review of the literature on different comparator arms (from waiting list to placebo) suggests that the biochemical effect of medication might be higher than observed and this might lead to a more reliable and stable therapeutic effect. Recent meta-analysis suggest medication is superior to any psychotherapy almost at the same magnitude it is superior to placebo, while both psychotherapy and the response in the placebo arm show a strong relationship to initial severity.

Conclusions: The data suggest that the placebo and drug effects are non-additive: antidepressants act independently of depression severity, while the placebo effect is present only in milder cases. While the response in the placebo group is due to unstable “noise” and “artefacts”, the medication effect is reliable, valid and stable. The article introduces a new model concerning the drug-placebo relationship.

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Effect of ARI Adjunctive to LI or VAL on Manic and Mixed Subpopulations: 52-week, Double-blind, Randomized Relapse Prevention trial

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Background: This post-hoc analysis evaluated the long-term safety and efficacy of adjunctive aripiprazole (ARI) to lithium (LI) or valproate (VAL) vs. placebo (PLB)+LI/VAL in preventing recurrence of any mood episode in bipolar I disorder patients whose most recent episode was manic or mixed.

Materials and methods: Data were analysed from a 52-week relapse prevention study of bipolar I disorder patients with a manic or mixed episode (defined by DSM-IV-TR) enrolled after 2 weeks of inadequate response to therapeutic levels of lithium or valproate, followed by a stabilisation phase of up to 24 weeks with adjunctive ARI [1]. Stable patients were randomised to double-blind ARI or PLB plus LI/VAL and followed for 52 weeks or until a relapse occurred.

Results: After stabilisation, 230 manic (111 ARI; 119 PLB) and 107 mixed (57 ARI; 50 PLB) patients were randomised to treatment. Baseline demographics were similar between manic and mixed patients, except gender, race and body mass index. Baseline YMRS total score was 4.1 in both groups; baseline MADRS total score was 2.9 in manic vs. 5.9 in mixed patients. YMRS total score remained significantly more stable over 52 weeks for ARI vs PLB in both manic and mixed patients (treatment difference for mean change from baseline to Week 52 (LOCF) in manic pa-

tients -3.32 , $p=0.001$ and in mixed patients TD -2.56 , $p=0.024$). There was no significant difference in body weight between ARI and PLB in both manic and mixed groups. The most frequent TEAE ($\geq 10\%$ and greater than placebo in both groups) was headache.

Conclusions: During long-term maintenance therapy, stabilised manic and mixed episode bipolar I disorder patients treated with adjunctive ARI maintained significantly greater stability in YMRS total score than PLB patients. Treatment was well tolerated in both manic and mixed patient groups.

Acknowledgements:

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P140

First-Episode Psychosis: Comorbidity with other psychiatric disorders

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Background: There is significant lifetime comorbidity in first episode psychosis (FEP), which affects the course and the treatment of these patients

Materials and methods: Comorbidity of DSM-IV Axis I disorders in a sample of 49 FEP patients was assessed retrospectively via structured clinical interview with Mini International Neuropsychiatric Interview (MINI). According to the design of the present study drug dependence was one of the exclusion criteria and for this reason there are no data for that disorder.

Results: Prevalence of lifetime comorbidity was high with 69% of patients having an Axis I psychiatric disorder during at least one phase of their life. Dysthymia was the most prevalent disorder found in 30,6% of the patients at the time of the study. The prevalence of anxiety and mood disorders prior to FEP was 21.6% and was reduced to 3.4% during FEP. There was no statistically significant difference between men and women.

Conclusions: The study shows the large amount of lifetime Axis I comorbidity in people with FEP, which is consistent with the results of previous studies. The reduction of anxiety and mood disorders comorbidity raises the question of a risk syndrome with no specific symptoms preceding the full threshold syndrome as proposed by McGorry.

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Effect of Aripiprazole Adjunctive to Lamotrigine on Manic and Mixed Subpopulations: 52-week, Double-blind, Randomised Relapse Prevention Trial

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Background: In a long-term maintenance study in bipolar I disorder patients with a recent manic or mixed episode, the combination of aripiprazole (ARI) and LTG tended to prolong the time to manic/mixed relapses compared to placebo (PLB) and LTG, although these differences did not reach statistical significance [1]. This post-hoc analysis evaluated changes in Young-Mania Rating Scale (YMRS) total scores from this study in patients with recent mixed vs. manic episodes

Materials and methods: In phase 1 of this study (9-24 weeks), patients were stabilised with single-blind ARI (10-30 mg/day) plus LTG (100-200 mg/day, open-label). Patients who achieved and maintained stability criteria (YMRS ≤ 12 and MADRS ≤ 12) for 8 consecutive weeks with one excursion allowed (YMRS and/or MADRS > 12), except for the second to last and last visit, were randomised in Phase 2 to ARI plus LTG or PLB plus LTG and followed for up to 52 weeks

Results: After stabilisation, 170 manic (97 ARI; 73 PLB) and 161 mixed (74 ARI; 87 PLB) episode patients were randomised to ARI plus LTG or PLB plus LTG. Baseline demographics were similar between manic and mixed patients. Mean change from baseline to Week 52 in the YMRS total score was significantly lower for ARI vs. PLB in manic patients (1.2 vs. 3.5; treatment difference [TD] -2.3 , $p=0.032$) and was numerically lower in mixed patients (1.8 vs. 4.0; TD -2.3) but the difference did not reach statistical significance ($p=0.075$).

Conclusions: During long-term maintenance therapy, ARI plus LTG maintained stability of manic symptoms, measured on YMRS, better than LTG alone in bipolar I disorder patients with either a recent manic or mixed episode

Acknowledgements:

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Risk Level and Range of Suicidality amongst Non-Attempting Early Psychosis Patients

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Background: The early phase of psychosis is a high-risk period for suicide attempts. A number of patients attempt suicide during this phase - prior to the onset of symptoms, prior to first treatment contact, and even during the first four weeks following discharge. Suicidal ideas and plans develop over a period of time and there exists a range of "suicidality" arising from several factors that combine to determine suicide potential. Based on this idea, it is likely that the risk level of these patients may be identified before an attempt is made. This can help with preventive strategies in early intervention programs. In this study we examined the risk level of patients of early psychosis who have not made an attempt.

Materials and methods: Sixty admitted patients with a DSM-IV diagnosis of non-affective schizophrenia spectrum disorder (early psychosis) were assessed in a naturalistic cross-sectional, cohort study. Psychopathology was assessed with the PANSS and HDRS and suicidality (spectrum of risk level) was measured with the SIS-MAP, a recently developed and validated scale.

Results: Out of 60 patients, 32-showed severe suicidality and 28-showed low suicidality. Characteristics of patients with high suicidality were male (42%). Symptoms, history of Cannabis abuse (67%), no previous contact with mental health services (67%), school drop out (73%), family history of suicide (11%), duration of psychotic symptoms first recognized (3.2 Months).

Conclusions: A high level of suicide potential exists amongst 64% of early psychosis patients who have not made an attempt. Quantified measurement of suicide potential can identify high-risk subjects amongst subject who have never attempted suicide. Comprehensive care plan would be required for these patients. More research is required to clarify the complexity of suicide potential in early psychosis.

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Validity and reliability of the electronic versions of the CES-D questionnaire and the Theory of mind - Picture stories test

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Background: Computers undoubtedly play nowadays an increasing role in clinical psychiatry. An important example is the so-called Computer-Based Neuropsychological Assessment¹, in which the administration, recording and assessment of neuropsychological tests is based on the use of the computer. The advantages of this method, such as saving time for the examiner, the ease of maintaining large volumes of files² and the wide acceptance by the patients³, have caused a growing interest by the scientific community. In this research we tried to assess the validity and reliability of the electronic versions of the CES-D questionnaire and the Theory of mind - Picture Stories test by comparing the observations obtained during the electronic administration with those obtained during the administration of the traditional printed form.

Materials and methods: The sample consisted of a total of 65 subjects (male : female = 38 : 27), median age 28 years, with high and higher educational level, with good knowledge of computer use. Each subject was examined twice, once with the electronic and once with the printed version of each test in random order and an one-week interval between the two administrations. For the statistical evaluation of the difference between observations in the two groups (electronic and printed version) we implemented the non-parametric Wilcoxon Ranked Test.

Results: As far as the Theory of mind - Picture stories test is concerned, comparing the two groups showed p-value = 0,165, while for the CES-D the p-value was 0,843. Consequently, for both the two tests examined, no statistically significant difference between the observations of the two groups (printed and electronic version) was detected.

Conclusions: Electronic versions of the CES-D questionnaire and the Theory of mind - Picture stories test seem to be credible alternatives of the traditional printed ones during a neuropsychological assessment. Considering the multiple practical advantages of using the computer in clinical practice, the use of these versions appears extremely promising.

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P144

Suicide rates and availability of mental health service providers in Greece

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Background: Our aim is to examine the relationship between regional and prefecture suicide rates and the number of mental health service providers in Greece.

Materials and methods: Data were taken from the Hellenic Statistical Authority (EL. STAT.) for the period 2002-2009. Spearman rho correlations were used to examine the relationship between general and mental health providers and suicide rates per 100,000 residents in the level of prefecture.

Results: The highest suicide rates - per 100.000 residents - were as follows: Lefkada prefecture in 2009 (9,02), Evrytania during 2007-2009 (6,87) and Rethymno during 2002-2009 (6,93). At the prefecture level the highest rates appeared during 2009 in Crete region (4,76) and during 2002-2009 in Peloponnisos prefecture (4,01). At the regional level, during 2009, suicide rates were negatively correlated with, psychiatrists ($\rho=-0,51$), psychologists ($\rho=-0,40$), pathologists ($\rho=-0,57$), and the number of the official mental health services (psychiatric clinics, day centers, mobile mental health units etc) ($\rho=-0,55$). The above correlations were found to be stronger for the period 2007-2009.

Conclusions: It was found that, at the regional level, suicide rates are reversed related to the number of mental health service providers, in region level, in Greece. However, aggregate analyses cannot specify risk indices for individual persons. Our findings support strong correlations of region level suicide rates with proposed indicators of access to mental health care.

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Testosterone in the early phase of first episode Schizophrenia: Relevance to psychopathology

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Background: Neurohormones are well known modulators of neurochemical changes and play a significant role in the pathophysiology of schizophrenia.

Low testosterone is specifically associated with negative symptoms in chronic schizophrenia as well as in first episode psychosis (FEP).

Several potential mechanisms have been proposed for how such hormonal changes could also affect brain structure and function, including the effect of neonatal exposure to maternal stress on the hypothalamic-pituitary-adrenal (HPA) axis and the activation effects of gonadal hormones during puberty.

Dehydroepiandrosterone sulfate (DHEAS), neuroactive steroids, and other sex hormones, may have a role in reversing or slowing the progression of negative symptoms. This study examines level of testosterone in FEP to see if it changes with treatment.

Materials and methods: Twenty-nine admitted patients with a DSM-IV diagnosis of schizophrenia (early psychosis) were assessed in a naturalistic cross-sectional cohort study. These patients were not drug naïve but only had minimal exposure to neuroleptics. Psychopathology was assessed with the Positive and negative syndrome scale (PANSS) and Hamilton depression rating scale (HDRS) and a locally developed and validated scale for the assessment of suicidality (SIS-MAP). Patients were treated for 6 months in a 'treatment as usual' design in a naturalistic inpatient and outpatient setting within an Early Psychosis Intervention program at the, "Regional Mental Health Care", in St Thomas, Ontario, Canada. Levels of testosterone were measured at baseline and at the end of 6 months of treatment. The data were analyzed using the Pearson-Product-Moment correlation between cholesterol, suicidality and, psychopathology. All results are considered significant when the Type1 error is less than 5% ($p < .05$).

Results: Twenty-nine patients completed the study whose mean age was 32.2 (9.2) years. The mean duration of illness was 9.8 (3.5) months, mean positive symptom score was 25.8 (7.5), mean negative symptoms score was 18.8 (6.8) and, the mean SISMAP score was 23.0 (11.1) suggesting a moderate suicide risk. The mean testosterone level was 11.0 (9.1) at baseline and 9.1 (7.9) following treatment. Interestingly, the mean testosterone level was below normal (18-144) mmol/ml for both pre and post treatment measures. In this study only positive symptoms at baseline was significantly associated with the change in testosterone levels ($p < .05$). Lower levels of testosterone have been consistently demonstrated, however the association of lower levels of testosterone with positive symptoms is a new finding, which needs to be confirmed. Abnormalities of HPA-axis are documented in positive symptom. It is likely that testosterone has some interactions with the HPA-axis.

Conclusions: Testosterone levels in patients of first episode schizophrenia during the early phase of psychosis was lower than normal levels and remained lower following 6 months of treatment with antipsychotics. Only positive symptoms were found to be significantly associated with change in pre and post treatment levels of testosterone. More research is required in this field to examine the association with psychopathology and possibility of using testosterone in treatment schizophrenia.

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P146**Serum Lipids and Suicidality in early psychosis: Is there a connection?**

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Background: Suicide is the commonest cause for mortality (5 to 11%) in Schizophrenia; however these patients cannot be identified. Cholesterol has been reported to be related to serum cholesterol level. Low levels of cholesterol are associated with increased tendency for impulsive behavior and aggression, which contribute, to a more violent pattern of suicidal behavior. Violent suicide completers show significantly lower cholesterol and platelet 5-HT in the first episode of psychosis. The neurochemical basis has partially been explained by involvement of serotonin system, abnormal membrane phospholipids and leptine related to cholesterol metabolism. Present study examines levels of cholesterol and severity of suicide risk in a cohort of early psychosis.

Materials and methods: Sixty admitted patients with a DSM-IV diagnosis of DSM IV non-affective schizophrenia spectrum disorder (early psychosis) were assessed in a naturalistic cross-sectional, cohort study. Psychopathology was assessed with the PANSS and HDRS and locally developed scale for assessment of suicidality (SIS-MAP) Levels of cholesterol estimated. Findings were analyzed for clinical correlation of cholesterol suicidality and psychopathology.

Results: Out of 60 patients, 32-showed severe suicidality and 28-showed low suicidality. No serum cholesterol abnormality (5.6 mmol/Lit NS) was observed in patients as a group and those with low-suicidality (SIS-MAP <10) (cholesterol (5.04 mmol/Lit, NS). However low levels of cholesterol were observed in a subgroup with severe suicidality (SIS-MAP >30; 4.07 mmol/Lit, $p < 0.3$) and severe depression (HDRS >20, 4.2 mmol/Lit $p < 0.03$).

Conclusions: This suggests lower levels of cholesterol in patients of psychosis with severe suicidality and severe depression in early psychosis. More research is required in this field to determine the neurochemistry of suicide behavior in psychosis and its significant in prediction of suicidality.

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The risk of SSRIs for suicide attempts in elderly patients: Korean National Database Cohort Study

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Background: Concerns have been raised that SSRIs may increase the risk of suicide in children and young adults [1]. However, the risk of suicide related with SSRIs has not been well studied in elderly patients [2]. This study aimed to estimate the relative risk of suicide attempt in elderly patients with depressive disorder who are treated with SSRIs compared with those who are not treated with antidepressants.

Materials and methods: The authors used the data of elderly patients who were aged more than 65 years, diagnosed as depression, and had been treated with SSRIs between 1 January, 2005 and 1 June, 2006 from Korea Health Insurance Review Agency database (KHIRA) in Korea. The database included information of 4,022,650 elderly patients and 101,050,203 prescriptions. Suicidal attempt was defined as a visit to emergency room for the diagnoses based on ICD-10 that could be presumed as suicide attempts in Korean social and cultural environment. Cox proportional hazard model was used for statistical analysis after age and sex were adjusted.

Results: The hazard ratio (95% confidence interval) was 1.31 (0.78-2.91) for total SSRIs group compared with control group those who are diagnosed as depression but not treated with antidepressants. However, the hazard ratio of single antidepressant was 3.89 (2.29-6.61) for fluoxetine, 0.51 (0.21-1.23) for paroxetine, and 0.46 (0.16-1.36) for citalopram, respectively.

Conclusions: SSRIs are relatively safe and not supposed to raise the risk of suicide attempts except the fluoxetine. Fluoxetine may increase the risk of suicide attempts in elderly depressed patients. These results should be verified in the future studies.

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P148

Olanzapine: Is it, by its self, the one and only guilty for the metabolic syndrome? A case series

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Background: There are many authors correlating Olanzapine treatment with the appearance of the metabolic syndrome. We have tried to investigate if, either, there are any other additional to Olanzapine conditions, necessary, for the appearance of the metabolic syndrome, or Olanzapine by its self is responsible.

Materials and methods: We have studied eight patients under same dosage of Olanzapine treatment and variable number of predisposition factors (history of increased body weight, family history of diabetes melitus, personal history of dyslipidemia e.t.c.) in time period of one year. Some of the patients were presenting a considerable number ($n>5$) of predisposition factors, some of them a moderate number ($n>2, <5$) of predisposition factors and one, was presenting decreased ($n=2$) predisposition factors. None of the patients was presenting signs or symptoms of metabolic syndrome at the time the treatment started. We investigated laboratory blood indicators for metabolic syndrome (total cholesterol, triglycerids, glucose, LDL, HDL), the body weight alterations and blood pressure disturbances.

Results: The patients with increased predisposition factors, at the time the treatment have started, were presented with high quantitative and qualitative indicators for metabolic syndrome during the one year of treatment. Patients with moderate number of predisposition factors at time of treatment initiation, were presented with moderate quantitative and qualitative indicators of metabolic syndrome. The patient with few known predisposition factor didn't present any indicatory factor for metabolic syndrome.

Conclusions: On the basis of the findings, we keep our reservations if Olanzapine, by its self without any other factor, is the only responsible for the appearance of the metabolic syndrome. Our findings suggest that predisposition factors play a direct and key role for the manifestation of the syndrome.

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Different outcomes in Resistant Obsessive Compulsive Disorder Treatment with Repetitive Transcranial Magnetic Stimulation: Two Cases from Iranian patients

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Background: Rate of Resistant Obsessive Compulsive Disorder (OCD) is about 30% with conventional treatments which make the research on novel treatments necessary. There is limited data on using repetitive Transcranial Magnetic Stimulation (rTMS) in resistant OCD.

Materials and methods: Subjects was 41(Case 1) and 40 (Case 2) years old men with long time history of OCD without history of bipolar disorder. Case 1 had intrusive thoughts that his penis is shrinking and he repeatedly check it. Case 2 had repeated thoughts about insulting religious figures led to his suicidal attempt. Their symptoms not controlled by hospital admission including 4 and 6 sessions of Electroconvulsive Therapy (ECT) and polypharmacy regimes. Two patients were given rTMS 4 days in a week by The Magstim Rapid2 stimulator (100% resting motor threshold, 20 Hz, 2.5 seconds per minute for 20 minutes, 1000 pulses per session) to a right dorsolateral prefrontal cortex (RDLPFC).

Results: In case 1 there was dramatic response after only 3 sessions but after 9 sessions he slowly became restless till 13 sessions that treatment stopped due to mania switching with mixed feature.

In case 2 after reaching the target of 16 sessions, efficacy of treatment observed by Yale-Brown Obsessive Compulsive Scale (YBOCS) 63% dropping and Hamilton Depression Rating Scales (HDRS-24 item) 46% decreasing at the end of treatment beside the elimination of suicidal thoughts.

Conclusions: This preliminary result suggests that RDLPFC stimulation with rTMS might affect prefrontal mechanisms involved in OCD and rTMS could be used as add on therapy for treatment resistant OCD patients but there should be further studies for diagnosis risk factors of switching in rTMS .

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P150

Comparison of short- term, explicit and implicit Memory among the Post Traumatic Stress Disorder patients based on non drug treatment tapes

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Background: Memory distortion is the most commonly among Post Traumatic Stress Disorder patients. The psychological Debriefing (PD) and Eye Movement Desensitization and Reprocessing (EMDR) are widely used for treatment of PTSD patients. These treatments are controversial. Memory can affected by treatment methods and intensify the symptoms of the disorder.

Materials and methods: 69 PTSD patients were randomly selected, based on using the treatment type (EMDR, PD, control groups) and responded to short- term, explicit and implicit Memory Scale.

Results: Results indicated that the EMDR, control and PD groups had no significant different in implicit memory. PD, EMDR and control groups had, better explicit memory score, respectively. EMDR, control and PD groups had, better explicit memory score, respectively.

Conclusions: Considering the low level of explicit memory score in EMDR group compared with others groups and the negative effects of this memory in improvement of symptoms of PTSD, EMDR is better than PD in treatment of PTSD patients.

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P151

Development of a PC-based Simply-applied, Cognitive Test and Quantification of the Normative Data in Post-secondary Educated Population

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Background: The conversion rate of MCI to dementia is approximately 12-15% per year. Our inter-

est has been focused on the development of a Simply-applied, short-time consuming standardized technique to quantify normal cognitive function in post-secondary educated population.

Materials and methods: A computer-based, cognitive test which is developed more by modifying standard paper-pencil tasks was made. This test measures multiple cognitive domains of memory, attention, concentration, executive function and spatial processing. The whole test lasts only up to 15 minutes and is too easy to be used by different age groups and education levels. It has a maximum total score of 150. Eighty-five post-secondary-educated individuals in different age groups (31 M, 54 F) with no cognitive complaints were volunteers for research testing. They were divided first in four age groups (20-39, 40-49, 50-59, 60-69), and then in 2 age groups (under 60Yr, Above 60 Yr).

Normative data in different cognitive domains were evaluated.

Results: The 2 age groups differed significantly in Memory score but not in Attention score. Cronbach's Coefficient alpha of internal consistency was evaluated. The 5th percentile of total score in whole group is 108. So a total score under this value (lower than -1.5 Z score) will be considered abnormal.

Conclusions: This cognitive test is very simple to be applied for everyone. The second step is the validation of the test in larger normal groups and evaluating its discriminating power for MCI patients.

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The Importance of application a Standard Simply-applied Cognitive Test as a Routine Screening Test for all Adults

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Background: There is a substantial risk of misclassifying normal adults as MCI patients or in turn, psychometrically misclassifying MCI in healthy older adults. So we tried to make a simply-applied, short-time-consuming memory test and used it in a group of cognitively healthy adults to check its importance in clinical use as a routine test.

Materials and methods: A computer-based, cognitive test which is developed more by modifying standard paper-pencil tasks was made. This study examined 76 normal post-secondary-educated volunteers (20-78 years).

Results: 6 volunteers showed significantly lower total scores than the others (lower than 5th percentile, < -1.5 Z score) and also a MMSE of 27±1 and was categorized as group with abnormal score (AB). After the test they acknowledged a complaint of memory problem such as forgetfulness. These two groups independently of the age-adjusted score, differed significantly in most subsets of the test.

This group is suggested to be followed-up clinically with complete psychometrical tests to exclude the possibility of MCI. Also they should be tested more frequently and any fluctuations should be evaluated. In the case that this group show low memory scores in different sessions without significant fluctuation, the scores should be considered as base rates for future tests.

Conclusions: As a conclusion we suggest to focus on the necessity of a standard simply-applied Cognitive test as a Routine Screening test for all adults. Understanding the base rates of low

scores can reduce the over-interpretation of low-memory scores as in MCI, thus minimize false-positive misclassification and vice versa.

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Addressing needs of assessment of stigma in clinical setting: quantifying experiences of individuals suffering from psychiatric disorders

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Background: Up to two-thirds of patients drop out of treatment prior to the completion of studies due to stigma. Stigma has been shown to be a clinical risk factor, which can lead to life-threatening symptoms. It delays treatment for those who need it and reduces the capacity for a patient to make sound health decisions. Consequently, stigma worsens the course of mental illness and makes recovery less likely by reducing treatment compliance. Discontinuation of treatment follows causing relapse and disability which in turn leads to discrimination and isolation. It is important to recognize that stigma is a clinical condition that must be treated within a mental health setting. Recognition of stigma and treatment for it can reduce or prevent associated complications. However, in order to deal with its impact it needs to be; [1] assessed on an individual basis during routine clinical examination, [2] quantified to obtain objective deliverables and, [3] the experience of stigma must be measured to determine if there is a change for the individual following treatment.

This paper deals with construction of rating scale which can measure the experience and burden of stigma.

Materials and methods: A literature review was conducted to determine which factors contribute to stigma experienced by patients. From the review common factors believed to be responsible for stigma were selected for the construction of a clinical scale.

Results: We determined that stigma has several domains: personal, social, cultural, illness-related, treatment-related, and environmental. Each of these domains has several factors, which may or may not contribute to the degree of stigma affecting a given individual.

We constructed the scale constituting of Part A. Experiences of Stigma: 1) Psychological experience Psychological consequences, 2) Social consequences, 3) Experience of the illness and treatment and, 4) Coping strategies.

Part B: Individual's Opinion about stigma.

Part C: measurement of resilience and ability to cope.

Conclusions: A stigma scale used in the clinic can be constructed based upon factors of these domains. It is currently being validated using clinical and control populations. It is expected that this scale will be invaluable in improving the quality of life of those suffering from stigma.

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Levomepromazine: evaluation of the in vitro cytogenetic effects

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Background: Levomepromazine (Nozinan) is an antipsychotic medication, which belongs to the phenothiazine neuroleptic drugs. It is licensed for use in the treatment of schizophrenia and as an adjuvant analgesic and antiemetic agent.

Materials and methods: We investigated the Levomepromazine cytogenetic effects by evaluating and comparing the frequency of Sister Chromatid Exchanges (SCEs), Proliferation Rate Index (PRI) and Mitotic Index (MI) on cultures of human lymphocytes of healthy donors under the presence of specific and variable Levomepromazine concentrations. SCEs is one of the most sensitive biomarkers of cytotoxicity reflecting DNA damage and/or subsequent DNA repair, though PRI and MI are used as valuable markers of cytostaticity.

Results: Our results are suggestive of a statistically significant increase of SCEs ($p < 0.0001$) when healthy human lymphocytes are cultivated under the presence of the maximum therapeutic dose of Levomepromazine. Furthermore, Levomepromazine showed statistically significant cytostatic effects ($p < 0.001$) causing a significant decrease of both the PRI and MI when present in high doses in cultures of human lymphocytes in vitro.

Conclusions: Our results could stand as an initial reference cytogenetic evaluation of Levomepromazine and we strongly recommend further in vivo genotoxic and cytogenetic studies of this agent.

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P155

A case of Human Herpesvirus-6 brain infection presenting with manic-depressive symptoms

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Background: Human Herpesvirus, subtype 6 (HHV-6) produces life-long infections, and has been implicated in several neurological conditions, such as multiple sclerosis. There is growing concern that HHV-6 might also contribute to the development of several other neuropsychiatric conditions as well.

Materials and methods: We present a case of a young woman with no psychiatric history, who presented post-partum emotional lability with discrete episodes of hyper- and hypo-activity with periodic disinhibition and hypersexuality or social withdrawal and apathy respectively. She suffered for a total of three years, while unsuccessfully treated with psychotherapy until she presented tremor and then progressively deteriorating ataxia and urine incontinence. The MRI brain scan showed multiple white matter lesions and ventricular enlargement, initially suggesting hydrocephalus. A ventriculoperitoneal shunt failed to resolve her neurological symptoms. However, her psychiatric symptoms ameliorated substantially when she was started on oral valproate.

Results: A detailed and thorough neurological investigation excluded multiple sclerosis and other suspected diseases. A brain biopsy ultimately revealed an HHV-6 viral infection and her neurological symptoms improved on repeated monthly I.V. mitoxantrone and methylprednisolone. She remains emotionally stable on continued valproate treatment for three years.

Conclusions: To this date, HHV-6 infections have been reported as possible reasons of delirium, dementia and psychotic-like symptoms. In our case, psychiatric symptoms preceded the neurological symptomatology and were mimicking bipolar disorder. To our knowledge this is the first report associating an HHV-6 infection, as evidenced by the brain biopsy, with the development of affective, manic-depressive-like symptoms.

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Neuroprotective effect of phenytoin in a rat model of spinal cord injury

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Background: Spinal cord trauma creates irreversible local primary injury to neurons. Severity of the initial injury is exacerbated by secondary degeneration (i.e. the maintenance of cellular death for some time afterwards), caused by local inflammatory response. In this study we as-

sessed whether phenytoin, an antiepileptic agent, could provide neuroprotection in a rat model of spinal cord injury.

Materials and methods: Adult male Fisher rats were subjected to incomplete spinal cord injury (contusion type) by a weight-drop device, at the level of the twelfth thoracic vertebrae. Half of the animals were administered with phenytoin intraperitoneally and underwent regular neurological examination with the BBB test until six weeks after trauma. They were sacrificed at certain time points and cord specimens were subjected to pathological evaluation.

Results: Neurological results showed that animals that received phenytoin presented with higher scores in all tests performed. Overall comparison of control and phenytoin groups' clinical scores shows that animals that received phenytoin achieved higher scores with a statistically significant difference ($p < 0.05$). Histological results showed that animals given phenytoin had less degenerative alterations at the injury site and larger amounts of spared neurons. In addition, the appearance of astrocytic scar at the injury site, more evident in the phenytoin group, was combined with improved neurological scores.

Conclusions: Our results indicate that phenytoin could provide neuroprotection in rats with spinal cord injury, by reducing inflammation progress through inhibition of voltage gated sodium channels. Suppression of the degenerative procedure led to the development of an astrocytic matrix associated with partial neuronal recovery.

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Ziprasidone: evaluation of the in vitro cytogenetic effects

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Background: Ziprasidone (Geodon) is an atypical, second generation antipsychotic medication. It is licensed for use in the treatment of schizophrenia and administration with an intramuscular injection is approved for acute agitation in schizophrenic patients.

Materials and methods: We investigated the Ziprasidone cytogenetic effects by evaluating and comparing the frequency of Sister Chromatid Exchanges (SCEs), Proliferation Rate Index (PRI) and Mitotic Index (MI) on cultures of human lymphocytes of healthy donors under the presence of specific and variable Ziprasidone concentrations. SCEs is one of the most sensitive biomarkers of cytotoxicity reflecting DNA damage and/or subsequent DNA repair, though PRI and MI are used as valuable markers of cytostaticity.

Results: Our results are suggestive of a statistically significant increase of SCEs ($p < 0.0001$) when healthy human lymphocytes are cultivated under the presence of the maximum therapeutic dose of Ziprasidone. Furthermore, Ziprasidone showed statistically significant increase of the cell proliferation rates ($p < 0.001$) causing a significant increase of both the PRI and MI when present in high doses in cultures of human lymphocytes in vitro.

Conclusions: Our results could stand as an initial reference cytogenetic evaluation of Ziprasidone and we strongly recommend further in vivo genotoxic and cytogenetic studies of this agent.

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P158

Amisulpride: evaluation of the in vitro cytogenetic effects

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Background: Amisulpride (Solian) is an atypical, second generation antipsychotic medication. It is licensed for use in the treatment of psychosis in schizophrenia, episodes of mania in bipolar disorder and in small doses in depression.

Materials and methods: We investigated the Amisulpride cytogenetic effects by evaluating and comparing the frequency of Sister Chromatid Exchanges (SCEs), Proliferation Rate Index (PRI) and Mitotic Index (MI) on cultures of human lymphocytes of healthy donors under the presence of specific and variable Amisulpride concentrations. SCEs is one of the most sensitive biomarkers of cytotoxicity reflecting DNA damage and/or subsequent DNA repair, though PRI and MI are used as valuable markers of cytostaticity.

Results: Our results are suggestive of a statistically significant increase of SCEs ($p < 0.0001$) when healthy human lymphocytes are cultivated under the presence of the maximum therapeutic dose of Amisulpride. Furthermore, Amisulpride showed statistically significant cytostatic effects ($p < 0.001$) causing a significant decrease of both the PRI and MI when present in high doses in cultures of human lymphocytes in vitro.

Conclusions: Our results could stand as an initial reference cytogenetic evaluation of Amisulpride and we strongly recommend further in vivo genotoxic and cytogenetic studies of this agent.

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P159

Aripiprazole: evaluation of the in vitro cytogenetic effects

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Background: Aripiprazole (Abilify) is an atypical, second generation antipsychotic medication. It is licensed for use in the treatment of schizophrenia, bipolar disorder, clinical depression and irritability in children with autism.

Materials and methods: We investigated the Aripiprazole cytogenetic effects by evaluating and comparing the frequency of Sister Chromatid Exchanges (SCEs), Proliferation Rate Index (PRI) and Mitotic Index (MI) on cultures of human lymphocytes of healthy donors under the presence of specific and variable Aripiprazole concentrations. SCEs is one of the most sensitive biomarkers of cytotoxicity reflecting DNA damage and/or subsequent DNA repair, though PRI and MI are used as valuable markers of cytostaticity.

Results: Our results are suggestive of a statistically significant increase of SCEs ($p < 0.0001$) when healthy human lymphocytes are cultivated under the presence of the maximum therapeutic dose of Aripiprazole. Furthermore, Aripiprazole showed statistically significant increase of the proliferation rates ($p < 0.001$) causing a significant decrease of both the PRI and MI when present in high doses in cultures of human lymphocytes in vitro.

Conclusions: Our results could stand as an initial reference cytogenetic evaluation of Aripiprazole and we strongly recommend further in vivo genotoxic and cytogenetic studies of this agent.

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Paliperidone: evaluation of the in vitro cytogenetic effects

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Background: Paliperidone (Invega) is an atypical, second generation antipsychotic medication. It is licensed for use in the acute and maintenance treatment of schizophrenia. Paliperidone is

one of many active metabolites of the older atypical antipsychotic risperidone (paliperidone is 9-hydroxyrisperidone).

Materials and methods: We investigated the Paliperidone cytogenetic effects by evaluating and comparing the frequency of Sister Chromatid Exchanges (SCEs), Proliferation Rate Index (PRI) and Mitotic Index (MI) on cultures of human lymphocytes of healthy donors under the presence of specific and variable Paliperidone concentrations. SCEs is one of the most sensitive biomarkers of cytotoxicity reflecting DNA damage and/or subsequent DNA repair, though PRI and MI are used as valuable markers of cytostaticity.

Results: Our results are suggestive of a statistically significant increase of SCEs ($p < 0.01$) when healthy human lymphocytes are cultivated under the presence of the maximum therapeutic dose of Paliperidone. Furthermore, Paliperidone showed statistically significant increase of the proliferation rates ($p < 0.001$) causing a significant increase of both the PRI and MI when present in high doses in cultures of human lymphocytes *in vitro*.

Conclusions: Our results could stand as an initial reference cytogenetic evaluation of Paliperidone and we strongly recommend further *in vivo* genotoxic and cytogenetic studies of this agent.

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Perphenazine: evaluation of the *in vitro* cytogenetic effects

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Background: Perphenazine (Trilafon, Minitran) is a typical antipsychotic medication, which belongs to the phenothiazines neuroleptic drugs. It is licensed for use in the treatment of psychosis in schizophrenia, the manic episodes of the bipolar disorder and in low doses in agitated depression.

Materials and methods: We investigated the Perphenazine cytogenetic effects by evaluating and comparing the frequency of Sister Chromatid Exchanges (SCEs), Proliferation Rate Index (PRI) and Mitotic Index (MI) on cultures of human lymphocytes of healthy donors under the presence of specific and variable Perphenazine concentrations. SCEs is one of the most sensitive biomarkers of cytotoxicity reflecting DNA damage and/or subsequent DNA repair, though PRI and MI are used as valuable markers of cytostaticity.

Results: Our results are suggestive of a statistically significant increase of SCEs ($p < 0.0001$) when healthy human lymphocytes are cultivated under the presence of the maximum therapeutic dose of Perphenazine. Furthermore, Perphenazine showed statistically significant cytostatic effects ($p < 0.005$) causing a significant decrease of both the PRI and MI when present in high doses in cultures of human lymphocytes in vitro.

Conclusions: Our results could stand as an initial reference cytogenetic evaluation of Perphenazine and we strongly recommend further in vivo genotoxic and cytogenetic studies of this agent.

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Quetiapine: evaluation of the in vitro cytogenetic effects

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Background: Quetiapine (Seroquel) is an atypical, second generation antipsychotic medication. It is licensed for use in the treatment of schizophrenia and bipolar disorder.

Materials and methods: We investigated the Quetiapine cytogenetic effects by evaluating and comparing the frequency of Sister Chromatid Exchanges (SCEs), Proliferation Rate Index (PRI) and Mitotic Index (MI) on cultures of human lymphocytes of healthy donors under the presence of specific and variable Quetiapine concentrations. SCEs is one of the most sensitive biomarkers of cytotoxicity reflecting DNA damage and/or subsequent DNA repair, though PRI and MI are used as valuable markers of cytostaticity.

Results: Our results are suggestive of a statistically significant increase of SCEs ($p < 0.0001$) when healthy human lymphocytes are cultivated under the presence of the maximum therapeutic dose of Quetiapine. Furthermore, Quetiapine showed statistically significant increase of the proliferation rates ($p < 0.001$) causing a significant increase of both the PRI and MI when present in high doses in cultures of human lymphocytes in vitro.

Conclusions: Our results could stand as an initial reference cytogenetic evaluation of Quetiapine and we strongly recommend further in vivo genotoxic and cytogenetic studies of this agent.

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P163

Sulpiride: evaluation of the in vitro cytogenetic effects

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Background: Sulpiride (Dogmatil) is a typical, first generation antipsychotic medication, which belongs to the benzamides. It is licensed for use in the treatment of psychosis associated with schizophrenia and major depressive disorder.

Materials and methods: We investigated the Sulpiride cytogenetic effects by evaluating and comparing the frequency of Sister Chromatid Exchanges (SCEs), Proliferation Rate Index (PRI) and Mitotic Index (MI) on cultures of human lymphocytes of healthy donors under the presence of specific and variable Sulpiride concentrations. SCEs is one of the most sensitive biomarkers of cytotoxicity reflecting DNA damage and/or subsequent DNA repair, though PRI and MI are used as valuable markers of cytostaticity.

Results: Our results are suggestive of a statistically significant increase of SCEs ($p < 0.0001$) when healthy human lymphocytes are cultivated under the presence of the maximum therapeutic dose of Sulpiride. Furthermore, Sulpiride showed statistically significant cytostatic effects ($p < 0.001$) causing a significant decrease of both the PRI and MI when present in high doses in cultures of human lymphocytes in vitro.

Conclusions: Our results could stand as an initial reference cytogenetic evaluation of Sulpiride and we strongly recommend further in vivo genotoxic and cytogenetic studies of this agent.

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P164

Hypothetical causal model of learned helplessness through structural modelling

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Background: This study subscribes to recent research on learned helplessness and especially its validation, and therefore, our objective is to underline the importance and the implications of learned helplessness on a social level.

This study proposes a causal model of depression from the learned helplessness point of view that also includes the role of perceived social support.

It also tries to justify results in the present context of learned helplessness research and to underline the contributions of each study as well as the rise of new directions of research in this domain.

Generalization of lack of control was called learned helplessness, a psychological state characterised by cognitive deficits (the body is incapable of identifying contingencies between answers and responses), low motivation and maladaptive emotional reactions (depressive affects) [1, 4].

This modified model starts from the assumption that people develop causal explanations regarding the motive of their failure in controlling the event or situation.

The main idea is that hopelessness comes when the individual: a) has negative expectations towards results valued at a high level (expecting a negative result) and b) has expectations of helplessness in changing the probability of getting the results (expectation of helplessness).

First, we propose a causal model of depression from learned helplessness point of view that will also include the role of the social support perception.

We wish to introduce a restructured depression model and test it in the situation in which the depressive disposition was experimentally induced.

Materials and methods: The study involved 89 patients with depression hospitalised in neuropsychiatry clinics. Patients aged between 19 and 66, 38 males and 51 females. There were 81 depressive patients without previous hospitalisation included in the study, aged between 19 and 67, 28 males and 53 females.

Patients were selected according to the scores they obtained on the SCL-90 depression scale (DEP). The battery of scales was administered individually. All the subjects filled in the A.S.Q. and in the following stage the subjects were asked to answer on a scale from 1 to 7 to three items related to the degree to which they consider they would have had control in case the event would have been produced.

Instruments

Attributional Style Questionnaire (A.S.Q) [2] is an instrument that measures the „explaining style” patterns representing the tendency of selecting certain causal explanations for favourable or unfavourable events.

Symptom Check List 90-R is an instrument which evaluates the gravity of the symptoms reported by patients. The internal consistency of its subscales is situated between .75 and .86 and for ISG it is .97.

Multidimensional Scale of Perceived Social Support is an instrument projected to measure the way people perceive social support from three sources: family, friends and significant others. Internal consistency is .91.

Kohn and Macdonald (1992) proposed Survey of Recent Life Experiences which they validated

starting from 92 items. The internal consistency of the total score was .90 [3].

Current Thoughts Scale, as its name suggests, underlines the importance of current feelings. The internal consistency of the SGC total score was .84.

Results: Event analysis and self esteem were considered to be the exogenous variables of the model we tested (cause variables); the maladaptive attributional style was also considered to play the role of an exogenous variable in relation with depression.

However, the maladaptive attributional style also plays the role of an endogenous variable (effect variable) as it is considered to be caused by the action of both variables, that is the personal control of the event and the importance of the event (or event analysis).

It was considered that the perceived social support plays the role of an endogenous variable (effect variable) for the maladaptive attributional style, and depression is an exclusive endogenous variable considering that it is influenced by the negative attributional style (as a mediator), self esteem and social support.

For the proposed causal model of depression we obtained satisfactory statistical indices (e.g. normalized χ^2 of 2,312; RMR=.01; GFI=.86; AGFI=.80) that indicate an adequate pattern between the hypothetical model and observed data (NFI=.84; RFI=.80; IFI=.87; CFI=.87).

Conclusions: This research paper subscribes to recent preoccupations for psycho-social implications of learned helplessness in explaining human behaviour.

The tested causal model shows that the importance of the event and control are acting as distant factors in creating a maladaptive attributional style. The maladaptive attributional style forms the base for social support perception and therefore can have a mediated action on depression.

Outcomes bring contributions at a methodological level through the ways of solving the lack of control issue and the priority of attributional mechanisms over preattributional as well as through implementation of a helplessness model which was meant to surprise the socio-cognitive approach in a explicit way.

We showed that learned helplessness gives an efficient explanation for psychological depression and less for endogenous depression.

This research underlines, at a practise level, the implications of helplessness quantitative research in clinical psychology, psychosomatics, psychotherapy and social psychology (associated to organisational psychology).

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Genes linked to both Alzheimer's Disease and depression

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Background: Emerging evidence indicates that common neurobiological mechanisms including the reduction of neurotrophic factors and the neuroinflammation underlie the development of both depression and Alzheimer's disease (AD). Important findings from genetic studies have already established common risk factors between depression and AD thus supporting the notion that a relationship between these disorders does exist.

Materials and methods: The aim of this study was to identify the genes that have been associated with both AD and depression. The Medline was searched with the combination of various key words such as "Alzheimer's disease", "beta amyloid peptide", "amyloid plaques", "depression", "antidepressant response", "genes", "genetics", "polymorphisms", "MDD", "serotonin receptors", "serotonin transporter", "COMT", "monoamine oxidase", "dopamine receptors", "dopamine transporter", "Dopamine- β -hydroxylase", "estrogen receptors", "neuroglin 1", "nitric oxide synthase", "apolipoprotein E", "presenilin 1", " β 1 adrenoceptor", "beta polypeptide 3", "CRH receptor 1", "BDNF", "neuroinflammation", "inflammatory cytokines". The SNP and the OMIM base of NCBI, the gene base of PharmGKB and the references of relative research and review papers were also searched.

Results: 28 genes (HTR1A, HTR2A, HTR1B, HTR2C, HTR6, SLC6A4, COMT, MAOA, , DRD1, DRD2, DRD3, DRD4, SLC6A3, DBH, BDNF, ESR1, ESR2, NRG1, PSEN1, APOE, NOS1, NOS3, CHRM2, GNB3, ADRB1, IL1A, IL1B, TNFA) have been associated with both AD and depression, though in many cases the literature's results are inconclusive.

Conclusions: A remarkable number of genes are linked to both AD and depression pathology. Further investigation is needed so as to be elucidated the role of the common genetic predisposition to depression and AD pathophysiology.

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Apathy, Cognitive Dysfunction and Social Cognition Impairment in a Patient with Bilateral Thalamic Infarction

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Background: Thalamic infarctions sometimes result in complex neuropsychological deficits including, a disorder of motivation and goal oriented behaviour as well as, in some cases, affec-

tive symptoms, called apathy [1, 2]. This syndrome is suggested to be due to interruption of the striatal-ventral pallidal-thalamic-frontomesial limbic loop [3, 4, 5]. Apathy is also characterised by cognitive deficits as a result of mammillo-thalamic tract (MTT) disconnection [6] or due to thalamic damage itself as it has been shown that thalamic infarctions are associated with “pre-frontal” behaviour including reduced initiative, as well as executive dysfunction and inattention [7]. Little do we know, however, on the impact that thalamic infarctions have on the social cognition. In the present study we describe the case of a patient with bilateral thalamic lesions as a consequence of brain infarcts in the paramedian thalamic artery territories. The patient demonstrated symptoms of apathy, as well as cognitive and social cognition impairment.

Materials and methods: A 40-year-old right-handed man, with unremarkable previous medical history, was admitted in 2006 to an Intensive Care Unit due to sudden onset of coma (GCS=6) with no lateralizing neurological signs. A brain CT scan was normal whereas an MRI scan revealed bilateral thalamic lesions located in the paramedian thalamic artery territories, including the dorsomedial nucleus (Fig 1).

Results: Lille Apathy Rating Scale (LARS) and neuropsychological assessment two and five years post infarct (Table 1) revealed presence of apathy and severe deficits in both verbal and non-verbal immediate and delayed memory, attention and executive functioning respectively, with no notable improvement over time. In addition, the patient showed noteworthy social cognition impairment with respect to understanding other people’s emotional states and perceiving sarcasm.

Conclusions: We attribute our patient’s symptoms of apathy and his inability to identify emotions and sarcasm to a possible disruption of information flow from the medial PFC to the thalamus. With respect to his cognitive deficits, we suggest that they are due to DM damage, which results to memory and executive function deficits and poor motivation.

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P167

Body fat indices, neurocognitive function, education and their relationship in patients with schizophrenia, mood disorders and normal controls

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Background: Psychiatric patients are known to exhibit diminished performance in several tests assessing cognitive function. Moreover, total obesity has also been associated with poorer cognitive function in normal controls. The aim of the present study is to examine the possible relationship between body fat indices, education and neurocognitive function in patients with schizophrenia, mood disorder patients and normal controls.

Materials and methods: The study sample included 169 normal controls, 139 patients suffering

from schizophrenia (SC) and 112 patients suffering from mood disorders (unipolar depression (UD) or bipolar disorder; BD) according to DSM-IV-TR. All patients were chronic and stabilized (not during the acute phase) and physically healthy, with normal clinical and laboratory findings. BMI, BMI-prime, Ponderal Index (PI) and Korevaar Index (KI) were calculated for all subjects. The neuropsychological assessment included the Random Letter Test (RLT), the Standardized Graphic Sequence Test (SGST), the Standardized Copy of Pentagons Test (SCPT), the Standardized Copy of a Cube Test (SCCT), the Rey-Osterrieth Figure test and the Draw a clock Test.

Results: Age, education, gender and diagnosis had a significant effect. Both patient groups performed worse than controls. There were no significant correlations between any body fat index and neurocognitive function in UD patients, whereas in SC patients there were significant correlations. Patients with schizophrenia exhibit worse overall neurocognitive function compared to mood patients. Mood patients perform worse in items related to shape, reflecting a possible disorder in the integration of information. Normal controls with higher body fat, although their attention and concentration remains unaffected, tend to perform in a suboptimal way. The absence of significant correlation between body fat indices and neurocognitive function in both patient groups seems to be a "floor effect".

Conclusions: The present study revealed specific correlations in the study parameters which differed between study groups. The interpretation of the findings is difficult and further specific and targeted research is necessary.

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Influence of the cognitive status in patients with a hip fracture

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Background: Mortality after hip fractures is significantly higher than in the general population because of the poor health status, comorbidity and cognitive impairment at the time of admission [1-4].

The aim of this study was to observe the most influenced factors of mortality six months after the hip fracture. Especially we analyzed the impact of cognitive impairment/dementia on survival of these patients.

Materials and methods: At the admission to the hospital assessment of mental/cognitive status, mobility before the fracture, general health status and presence of comorbidities, ASA index and ADL index was done for 192 patients with a hip fracture. The sex, age, type of fracture and location of injury were also analyzed. The six month period of mortality was followed and then univariate and multivariate regression analysis was performed

Results: We identified dementia (MMT score), mobility before the fracture, age over 80 years and the presence of comorbidities as the most important predictors of the six-month mortality rate after a hip fracture.

Conclusions: Comprehensive assessment of the physical and mental health status is one of the most important factors in predicting the outcome of elderly patients after a hip fracture. Good assessment of the cognitive impairment/dementia status could be very useful in selecting an optimal treatment for these patients

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P169

A longitudinal evaluation of neuropsychological findings in 1st psychotic episode patients: A six month follow up

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Background: Cognitive dysfunction is a main feature in schizophrenia. Impairments in attention, memory and executive functioning have been documented in various studies, but there is still no clear understanding of the longitudinal course of cognitive dysfunction.

The aim of the present study was to examine the longitudinal course of cognitive function in a group of patients with first-episode psychosis.

Materials and methods: We administered a comprehensive battery of neuropsychological tests to a group of 9 patients (5 men), age $M=31.89$ ($s.d.=8.96$) with 1st psychotic episode, at the time of the diagnosis (acute phase) and after 6 months. Specific tests of the Cambridge Neuropsychological Automated Battery (CANTAB) were used, in order to measure the cognitive domains of attention, memory, working memory, visuospatial ability and executive function (inhibition, planning, mental flexibility and shifting, abstract thinking).

Results: Paired t test was used to establish statistically significant changes in various tests of our battery in a period of 6 months between the two neuropsychological estimations. Our data show an improvement on tests measuring attention and planning, whereas deterioration was noted in a test measuring immediate visual memory and learning. Finally, there was no change in tests concerning non verbal memory, visuospatial working memory, mental flexibility and shifting.

Conclusions: Our data, although preliminary, suggest that these patients' neuropsychological performance on specific tests may change over time. Further research and evaluation is needed in order to clarify cognitive change in longer intervals.

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Correlation between clinical symptoms and cognitive functioning in 1st psychotic episode: A six month follow up

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Background: Every-day functioning of patients with 1st psychotic episode exhibits an important deterioration in comparison to healthy population. Although the exact course of their clinical symptoms is still under investigation, in general, research has also shown that the cognitive decline, exhibited during the acute phase of the episode, is not increased over time. The aim of the present study was to investigate whether the course of clinical symptoms of 1st psychotic episode patients had improved in a course of six months. In addition, we investigated whether a change in clinical symptoms would influence the changes in the cognitive performance of these patients.

Materials and methods: Three clinical scales [i.e. the Positive and Negative Symptom Scale (PANSS), the Social and Occupational Functioning Assessment Scale (SOFAS) and the Calgary Depression Scale for Schizophrenia] and a comprehensive battery of cognitive tests were administered to a group of 9 patients (5 men), age M=31.89 (s.d=8.96) with 1st psychotic episode, at the time of the diagnosis (acute phase) and after 6 months. The employed cognitive tests measured the cognitive domains of attention, memory, working memory, visuospatial ability and executive function (inhibition, planning, mental flexibility and shifting, abstract thinking).

Results: Our findings indicated a significant improvement in the social and occupational functioning of patients (SOFAS) and in four of the PANSS subscales over the period of 6 months. Moreover, better performance in certain cognitive domains, specifically, in sustained attention, working memory, planning, mental flexibility and new learning, was associated with the decrease in specific clinical symptoms.

Conclusions: Future studies should address whether the advanced cognitive performance can be maintained over longer time periods and if it can concomitantly enhance social and occupational aspects of patients' every-day functioning.

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Peripheral oxidative stress in patients with Mild Cognitive Impairment could be an important factor in developing Alzheimer's disease

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Background: Mild cognitive impairment (MCI) is a transitional stage between normal cognitive aging and mild dementia or clinically probable Alzheimer's disease (AD). There is a great interest in the relationship between MCI and the progression to Alzheimer's disease (1, 2). Several studies showed the importance of oxidative stress in the pathogenesis of AD. The aim of this study was to determine the oxidative stress status in MCI and AD patients.

Materials and methods: The patients were selected using Petersen criteria for MCI and NINCDS ADRDA criteria for AD. The cognitive performance was assessed using MMSE (Mini Mental State Examination), ADAS-cog (Alzheimer's Disease Assessment Scale- cognitive subscale), Clock Drawing Test and Verbal Fluency Test. We assessed the levels of some enzymatic antioxidant defences like superoxid dismutase (SOD) and glutathione peroxidase (GPX), as well as lipid oxidation makers like MDA (malondialdehyde), using chemiluminometric and spectrophotometric methods. The results were compared to an aged-matched control group.

Results: Alterations in the activity of the antioxidant enzymes (SOD and GPX) were found in MCI and AD peripheral blood compared to age-matched controls. Also, MDA levels were significantly increased in the AD and MCI patients, comparative with the control group. Moreover, in MCI patients, cognitive function positively correlates with antioxidant levels.

Conclusions: These results support the hypothesis that oxidative damage is an important event in the pathogenesis of neurodegenerative diseases. Also, it seems that some peripheral markers of oxidative stress appear in MCI with a similar pattern to that observed in AD, which suggest that oxidative stress might represent a signal of the AD pathology.

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Changes of some oxidative stress markers in schizophrenia: comparison between typical and atypical antipsychotics effects

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Background: Studies performed in schizophrenia patients have suggested the presence of a compromised antioxidant system, but this is not always consistent with specific observed parameters, which show evidences of dysregulation. There are also controversies regarding the oxidative stress status in patients treated with typical vs. atypical antipsychotics.

In this context, the aim of the present work was to evaluate the specific activity of some peripheral antioxidant defences like superoxide dismutase (SOD) and glutathione peroxidase (GPX) and the level of a lipid peroxidation maker (malondialdehyde—MDA) in schizophrenic patients treated with typical or atypical antipsychotics, compared with age-matched healthy subjects.

Materials and methods: Patients were of paranoid subtype, with duration of illness for at least 5 years. They all had been receiving stable doses of oral neuroleptic medications for at least two years prior this study. Nine patients were under haloperidol treatment and 26 (8/10/8) patients were under atypical treatment: quetiapine, olanzapine or risperidone, respectively.

All blood samples were measured in duplicate and averaged. Determinations of SOD, GPX and MDA were performed using chemiluminometric and spectrophotometric methods.

Results: Initial analysis included all schizophrenic patients, regardless of their treatment. We showed a significant increase of SOD activity in all subjects with schizophrenia, compared to control group. On the contrary, the specific activity of GPX was significantly decreased in schizophrenics group, in comparison with control subjects. In addition, we found that the levels of lipid peroxidation marker MDA were significantly increased in schizophrenic patients.

When we analyzed separately the effects of aforementioned antipsychotics on oxidative stress markers, we observed an increased level of SOD specific activity in patients treated with haloperidol and quetiapine. In addition, haloperidol and risperidone treatment resulted in a significant decrease of GPX activity.

In the case of MDA concentration we observed a very significant increase in all four treated groups, compared to control subjects.

Conclusions: Our results provide additional evidence of increased oxidative stress in schizophrenia. No major differences between patients treated with typical vs. atypical antipsychotics were found. This could suggest that long-term treatment with both typical and atypical antipsychotics may produce similar effects on the activities of the antioxidant enzymes and the levels of lipid peroxidation.

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Neuroticism characterizes women with premenstrual dysphoric disorder

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Background: Many women of childbearing age experience a variety of symptoms related to the menstrual cycle that may be limited to mild discomfort or extend to premenstrual syndrome or, depending on the degree of emotional and somatic impairment, to the most severe premenstrual dysphoric disorder (PMDD). With PMDD, women experience markedly compromised quality of life and ability to function in several settings. The aim of this study is to elucidate the personality characteristics of women suffering from PMDD.

Materials and methods: Premenstrual symptoms of 125 students (18-22 years old) were assessed by the Premenstrual Symptoms Screening Tool (PSST). The PSST reflects and translates categorical DSM-IV criteria into a rating scale with degrees of severity. The premenstrual symptoms were examined over the course of one menstrual cycle. Personality characteristics were determined to three categories (extroversion, neuroticism and psychoticism) according to Eysenck's Personality Inventory questionnaire.

Results: The diagnosis of PMDD was confirmed in 9 of 101 (8.9%) women who completed the PSST questionnaire. t-test was used in order to find out if there were differences concerning personality characteristics between the two groups. The result showed that women with PMDD had higher score in the dimension of neuroticism ($p=0.006$), while there were no differences in psychoticism ($p=0.755$) and extroversion ($p=0.450$).

Conclusions: It seems that neuroticism is a factor which makes women vulnerable to present PMDD. But, it is not sufficient to cause this disorder by itself. PMDD is a multidimensional entity and biological factors, like hormonal fluctuation, play crucial role in its etiology. Therefore, it is important to consider all these parameters when scheduling a treatment plan for PMDD.

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Depression and Generalized Anxiety Disorder: Associations with Economic Distress

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Background: The University Mental Health Research Institute conducted in 2009 a study investigating the prevalence of major depression (MD) and generalized anxiety disorder (GAD). Given the ongoing financial turmoil in the country, a replication study was conducted in 2011 in order to investigate changes in the prevalence rates of these disorders and to explore their links with economic variables.

Materials and methods: Two nationwide cross-sectional surveys were conducted in 2009 and 2011 following the same methodology. A random and representative sample of 2.192 and 2.256 people respectively participated in the studies. Major depression and GAD were assessed by the Structural Clinical Interview, whereas financial strain was measured through an Index of Personal Economic Distress (IPED), a self-constructed 8-item scale with good psychometric properties. Data were collected in the form of telephone surveys.

Results: One month prevalence of MD was found to be higher in 2011 than in 2009: 8.2% and 6.8% respectively ($p>0.05$). Similarly, one-year prevalence of GAD was 4% in 2011 and 3.8% in 2009 ($p>0.05$). Regarding the associations between the prevalence rates and the IPED in 2011, among the high economic distressed individuals, 20.9% suffered from MD and 4.1% from GAD. The corresponding percentages among the low economic distressed individuals were 6.8% and 1.2% respectively. In both cases, the associations were statistically significant ($p<0.01$)

Conclusions: Although the differences in prevalence rates between the two years did not reach statistically significant levels, the findings are still alarming indicating that there is a link between financial strain and mental illness, especially with the form of MD. Protective measures should be implemented to prevent the emergence and exacerbation of psychiatric disorders among the high economic distressed individuals.

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Quetiapine XR and IR in clinical practice for schizophrenic outpatients - a retrospective study

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Background: Schizophrenia is a debilitating mental disorder, which is difficult to treat for reasons that include its pathological complexity, a high number of treatment-resistant patients and

non-adherence to medication regimens(1-4).

The oral atypical antipsychotic (AAP) quetiapine fumarate is a recommended first-line treatment for schizophrenia (5 - 6) Quetiapine comes in two formulations; quetiapine extended release (XR) and quetiapine immediate release (IR), which differ with respect to receptor binding and pharmacokinetic profiles as well as dosing frequency. These differences may lead to differential use of quetiapine XR and IR in clinical practice.

The present study evaluated the clinical use of quetiapine XR and quetiapine IR in outpatients with schizophrenia spectrum disorder in Denmark.

Materials and methods: This non-interventional, retrospective, multicenter study (registered at clinicaltrials.gov, NCT01212575) was conducted in outpatient clinics across Denmark. Schizophrenia spectrum disorder patients (ICD10 diagnosis codes F20, F23.1, F23.2, F25) of both sexes, aged 18 - 65 years , who had received at least one dose of quetiapine XR and/or quetiapine IR during the study period (1 April 2009 - 30 September 2010) could be included. Every eligible patient was asked to sign a Subject Informed Consent Form (SICF) in accordance with Danish data protection and privacy legislation prior to enrolment to allow access to their medical records. Data specified according to the protocol were collected retrospectively from medical records, by manual search performed by each study site. All data were kept anonymous and identified only by the enrolment code.

The primary outcome was to evaluate the clinical use of quetiapine XR and quetiapine IR in an outpatient setting. Dosages ≥ 400 mg/d were predefined as antipsychotic according to D2-receptor occupancy (7). The statistical analyses were performed according to the prespecified analysis plan, using the SAS 9.2 software. A chi-square test was used to compare categorical variables and a t-test was used to compare the numerical (continuous) variables. A p-value below 0.05 was considered significant. The study was performed in accordance with the Declaration of Helsinki and applicable legislations.

Results: In all, a total of 186 patients (95 men and 91 women) were included. Of these, 99 and 87 patients received quetiapine XR and quetiapine IR, respectively, as their main treatment. Overall baseline patient demographics were similar for the XR and IR groups. Quetiapine was used at an antipsychotic dosage (≥ 400 mg/day) in 88 (89%) of XR patients vs. 55 (63%) of IR patients ($p < 0.0001$). Of these, 75% vs. 53% ($p = 0.0019$) used XR and IR at doses ≥ 600 mg/d, respectively. Quetiapine XR was used at higher mean doses than IR (748 mg/d vs. 566 mg/d; $p = 0.006$).

Conclusions:

- Quetiapine XR and IR are used in different ways in the outpatient clinical practice setting in Denmark. Quetiapine XR is more often used in higher (antipsychotic) doses. Many patients use both formulations concomitantly. Quetiapine IR is commonly used in an as-needed regimen.
- The differential use of quetiapine XR and IR probably reflects the different properties of these formulations and it stresses their versatility in terms of treatment of choice.

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Updated abstract! Quetiapine XR and IR in clinical practice for schizophrenic outpatients - a retrospective study

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Background: The atypical antipsychotic quetiapine fumarate is a recommended first-line treatment for schizophrenia. Quetiapine comes in two formulations, quetiapine extended (XR) and immediate release (IR), which differ with respect to binding and pharmacokinetic profiles as well as dosing frequency. These differences may lead to differential use of quetiapine XR and IR in clinical practice. This non-interventional study (NCT01212575) evaluated the clinical use of quetiapine XR/IR in outpatients with schizophrenia spectrum disorder in Denmark.

Materials and methods: Schizophrenia spectrum disorder patients (ICD10 F20, F23.1, F23.2, F25) attending outpatient clinics, and who had received at least one dose of quetiapine XR and/or quetiapine IR during the study period were included. Doses ≥ 400 mg/d were defined as antipsychotic dosages according to D2-receptor occupancy. Data were collected retrospectively from medical records (1 April 2009 - 30 September 2010).

Results: Of 186 included patients, 99 and 87 received quetiapine XR and IR, respectively, as their main treatment. Overall baseline patient demographics were similar for the XR and IR groups. Quetiapine was used at an antipsychotic dosage in 88 (89%) of XR patients vs. 55 (63%) of IR patients ($p < 0.0001$). Of these, 75% vs. 53% ($p = 0.0019$) used XR and IR at doses ≥ 600 mg/d, respectively. Quetiapine XR was used at higher mean doses than IR (748 mg/d vs. 566 mg/d; $p = 0.006$). A total of 55 (30%) patients used both formulations during the study period, of which 43 (23%) patients used both formulations concomitantly and 12 patients used both formulations sequentially during the study period. Among sequential users, all patients started with quetiapine IR at a lower daily dose before switching to a higher daily dose of quetiapine XR. Quetiapine IR was used in an as-needed regimen in 44 (23%) patients, whereas only one patient used quetiapine XR in this way. Patients with newly-diagnosed schizophrenia were more likely to receive quetiapine XR than IR ($p = 0.0009$), while there were no significant differences in patient age with respect to XR/IR use.

Conclusions: Quetiapine XR and IR are used in different ways in the outpatient clinical practice setting in Denmark. Quetiapine XR is more often used in higher (antipsychotic) doses. Many patients use both formulations concomitantly. Quetiapine IR is commonly used in an as-needed regimen. The differential use of quetiapine XR and IR probably reflects the different properties of these formulations and it stresses their versatility in terms of treatment of choice.

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Psychometric evaluation of hearing abilities & disabilities

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Background: A normal functioning auditory system predominantly serves speech hearing in addition with sound localization and sound segregation adequacy. The adaptation of the Speech, Spatial & Qualities of Hearing Scale (SSQ scale) for an extensive documentation of hearing abilities and difficulties in 3 main domains is presented. It consists of 3 subscales, speech hearing, spatial hearing and other qualities of hearing such as sound segregation, listening effort, clarity and recognition.

Materials and methods: The scale was adapted for the Greek language with the methodology of forward and backward translation between English and Greek. At a preliminary phase it was completed by two speech pathologists with normal hearing threshold and minor clarity corrections were made to three questions of the SSQ scale. It was then distributed to 59(19 male and 40 female) normal hearing adults with an age range of 18-76, mean 34 and standard deviation of 14.2. The higher scores in a scale of 0 to 10 reflect greater ability.

Results: Questions in all three subscales yield a mean score of at least 7.5 (in a scale of 0-10) with the exception of only a few subjects in limited questions. The most difficult questions (I10, I14), in all 3 subscales, were all part of subscale 1 (speech hearing) and these were also the most difficult ones in the study presenting the SSQ scale in hearing impaired individuals (S. Gatehouse & W. Noble 2004). In each of the three subscales there were an additional set of two questions in each scale which yield results between 7 and 7.5 in mean value. One of the questions failing to produce a meaningful response was III16 were being a driver was not the case for 5.9% of males and 27.6% of females.

Conclusions: At present this pilot study provides a hearing scale tapping into abilities and difficulties that are linked to the psychoacoustic profile of a person. Subscales include easier and more difficult questions in normal hearing adults. This scale may be used in a clinical population to compare difficulties across subscales in order to measure quality characteristics of hearing as they are being perceived by each individual.

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Management of Wernicke-Korsakoff syndrome in a patient with borderline personality disorder: A case report

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Background: Severe alcohol abuse with chronic malnutrition and Hepatitis C leading to a full blown Wernicke-Korsakoff dementia syndrome in a patient with psychiatric comorbidity is a challenging and complex situation. The case data and management is presented below.

Materials and methods: CLINICAL OVERVIEW A 48 year-old female patient was brought to the Emergency Department of the Psychiatric Hospital of Athens with delirium due to severe alcohol intoxication and malnutrition. She abused alcohol during a long period of time until her admission in the Internal Medicine department of the hospital due to electrolytic, hepatic and platelet count disorders. The patient presented with fluctuating level of alertness, confusion, agitation, aphasia, disorientation and involuntary motor movements. She was about 45 kg and had skin lesions all over her body.

PERSONAL HISTORY The patient was raised abroad in a wealthy environment till the age of 12, when her family moved to her home country Greece. She is described as a difficult and unstable personality, which took serious psychological blows from her parents' divorce at her age of 15 and the death of her alcoholic father some years later. The patient's psychiatric history begins at the age of 17 when she attempted suicide receiving pills. A 2-year long heroin abuse followed right after that. She started drinking alcohol at an almost daily basis at her twenties; nevertheless she managed to maintain a good level of functioning professionally (as a journalist and later on as a parliament employee) as well as socially. Also, about 20 years ago, after a recovering from a serious car accident, she suffered a psychotic episode and began receiving antipsychotic medication. Ever since, although she could still work, alcohol abuse was systematic and she became socially isolated. The patient gradually developed serious mood disorder symptoms and progressively deteriorated over the next years refusing to receive psychiatric aid. Seven years ago she attempted suicide again by receiving pills. During the following years alcoholism became more severe, with a daily intake of 1-1/2 bottle of whiskey. She was diagnosed with Hepatitis C 4 years ago (untreated till present day).

Results: The patient was initially treated with IV thiamine, IM diazepam. After 4 days she started receiving per os medication with thiamine, diazepam and low dose mirtazapine and olanzapine. Despite a slight improvement on agitation, her mental condition did not improve. CT scan and ECG did not show any abnormalities. NH3+ levels were normal. After about 30 days of somatic recovery in the Internal Medicine department, she was transferred to the 3rd Psychiatric Department. Her medication was changed to risperidone 3 mg and venlafaxine 75 mg and at this point a rapid recovery started to take place. About 20 days after admission to our department, the patient acquired a score of 25/30 on the MMSE scale and almost fully recovered in every day functions. Although her short term memory improved, her long term memory deficits caused delusional ideas about her recent and distant past. Her previous "chronic dysphoria" and unstableness began to manifest again.

Conclusions: Combined pharmacological approach is often needed in order to achieve rapid recovery of Wernicke dementia symptomatology

Acknowledgements:

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P179**Comorbidity of Anxiety & Tinnitus**

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Background: Tinnitus is the subjective perception of sound in the absence of a sound generator. Aetiology of tinnitus is not straightforward. Different medical specialties approach the symptom from different perspectives. It is common knowledge that otorhinolaryngology is the medical specialty qualified to make a differential diagnosis when a patient proceeds complaining of the symptom of tinnitus. However, due to the close correlation of tinnitus patients seeking medical help with anxiety and/or depression with or without insomnia, the condition is evidently complex.

Materials and methods: Research shows the existence of a negative feedback loop enhancing the annoyance of tinnitus presence together with worsening of anxiety, depression or insomnia. This loop has been linked to specific personality types (D personality) that tend to focus their attention to the presence of tinnitus thus developing psychopathology and/or enhancing its effects on the everyday life quality.

Results: A recent neurophysiological model focuses on tinnitus as a factor, which in some patients evokes strong emotions, such as fear of serious illness and anger, which are easily enhanced by adverse professional intervention. Based on the principles of neural plasticity, the theory says the brain has potential to relearn patterns that will de-emphasize the impact of tinnitus. In the theory of habituation, factors such as chronic stress, high levels of arousal, the significance of the sound, or sudden onset and unpredictability of the stimulus may interfere with the process of normal habituation. Another model proposes dishabituation (renewed focus on the sound) instead of lack of habituation as the difference between those who complain of tinnitus and those who do not and a nationwide Swedish questionnaire study found that the most important predictors of discomfort from and adaptation to tinnitus were controllability and degree of maskability by external sounds.

Conclusions: Tinnitus is a manifestation of malfunction in the processing of auditory signals and may be triggered anywhere along the auditory pathway. It is not exceptional for tinnitus to occur in patients with normal hearing. Such data emphasize the role of the central auditory nervous system as the primary site of the perception and experience of tinnitus. One of the procedures testing a part of the auditory system as well as being linked to the ability to perceive speech in noise is contralateral suppression of otoacoustic emissions.

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Bipolar disorder linked with neurocysticercosis

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Background: Cerebral cysticercosis is caused by neuronal infection by the pork tapeworm *Taenia solium*. In affected patients, psychiatric disorders, mainly depression and cognitive decline are highly prevalent.

Materials and methods: We present the case of a 65 year-old woman with manifestations of bipolar disorder since 15 years with history of neurocysticercosis.

Results: She was initially diagnosed as suffering from depression-like symptoms 15 years ago and she was treated successfully for cysticercosis infection. Afterwards, she was retired due to her emotional and cognitive problems. During hospitalization she presented episodes characterized by elevated mood, hyperactivity and progressive development of psychomotor agitation and aggression (YMRS 18), followed after a short period of time by progressive development of psychomotor retardation, withdrawal, very poor speech and hypersomnia and dysphoric mood (HRSD 21). She was well oriented without memory dysfunction in clinical assessment (MMSE 26, 3-MS 89). The comprehensive neuropsychological evaluation has shown executive deficits. The MRI revealed brain atrophy and subcortical white matter lesions characteristic of cysticercosis infection, whereas, Tc^{99m}-HMPAO (CERETEC) SPECT i.v. adu. 20 mCu revealed normal diffusion in the cerebral cortex. The patient's symptoms were substantially ameliorated by olanzapine (20mg/day) and valproic (500mg/day) administration.

Conclusions: In our patient's case neurocysticercosis was linked with manifestations of bipolar disorder which was substantially ameliorated by valproic and olanzapine combination.

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The effect of asenapine on health-related quality of life in patients with manic and mixed episodes associated with bipolar I disorder

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Background: The natural course of bipolar I disorder frequently entails multiple relapses and impairs psychosocial functioning, thus reducing physical, mental and social domains of patients' health-related quality of life (HRQoL). We assessed the effect of asenapine on HRQoL (assessed

with SF-36v2) among patients suffering from bipolar I disorder after 3 and 12 weeks of double-blind treatment.

Materials and methods: A total of 977 patients were randomised to asenapine (n=379), olanzapine (n=396) or placebo (n=202) for three weeks; 410 of these entered a 9-week continuation trial (asenapine n=181, olanzapine n=229). To assess the effect of asenapine on each SF-36v2 dimension score, analysis of covariance models were used.

Results: Baseline SF-36v2 scores were similar across treatments. At Week 3, asenapine was superior to placebo on the social functioning domain (44.7 vs. 41.8, $p<0.05$); and superior to olanzapine for the role-emotional limitations domain (44.5 vs. 41.9, $p<0.05$). At 12 weeks, asenapine was significantly superior to olanzapine in the physical functioning and role-emotional limitations domains (physical functioning: 52.6 vs. 49.6, $p<0.01$; role-emotional limitations: 46.9 vs. 42.1, $p<0.01$). These differences (both at week 3 and 12) were also greater than the minimal important differences (smallest differences in scores that are meaningful and relevant for patients).

Conclusions: Asenapine improved all major domains of HRQoL as assessed by SF-36v2. Asenapine restored the physical dimensions to levels comparable to the general population (mean scores around or above 50), and separated from olanzapine on mental and social domains that are known to be important for bipolar I patients.

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Standardization of the TEMPS-A in the Greek general population

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Background: Temperament is believed to be 'heritable' and relatively stable throughout life. Its dysregulation might represent the fundamental pathology of mood disorders and its presence in individuals reflects an increased predisposition for developing affective disorders. The aim of the present report is to examine the psychometric properties of the Greek version of the self-report TEMPS-A, and to replicate its postulated 5-factor structure. We also aimed to provide preliminary cut-off points for each of the subscales, and their relative prevalence in the Greek general population.

Materials and methods: The study sample included 734 subjects from the general Greek population (436 females; 59.4% and 298 males; 40.6%), with mean age 40.80 ± 11.48 years (range 25-67 years). The TEMPS-A was translated into Greek and back translated into English and the accuracy of the translation and its conformity with the original version were checked by the originators of the instrument.

Results: The factor analysis returned ten factors. The 1st, 4th and 8th factors correspond to aspects of anxious temperament. The 2nd and 6th factors correspond to aspects of the irritable temperament. The 3rd and the 9th factors correspond to aspects of the cyclothymic temperament. The 5th and the 7th factors represent aspects of the depressive temperament. The 10th corresponds to the hyperthymic temperament. The values of Chronbach's alpha varied from 0.72-0.88. In terms of raw scores, women were more depressive, cyclothymic and anxious and less hyperthymic than men.

Conclusions: The Greek version of the TEMPS-A has good internal consistency. Overall our results are in accord with the literature and in line with theoretical considerations as well as with empirical evidence, while the translated questionnaire fulfills criteria for internal validity.

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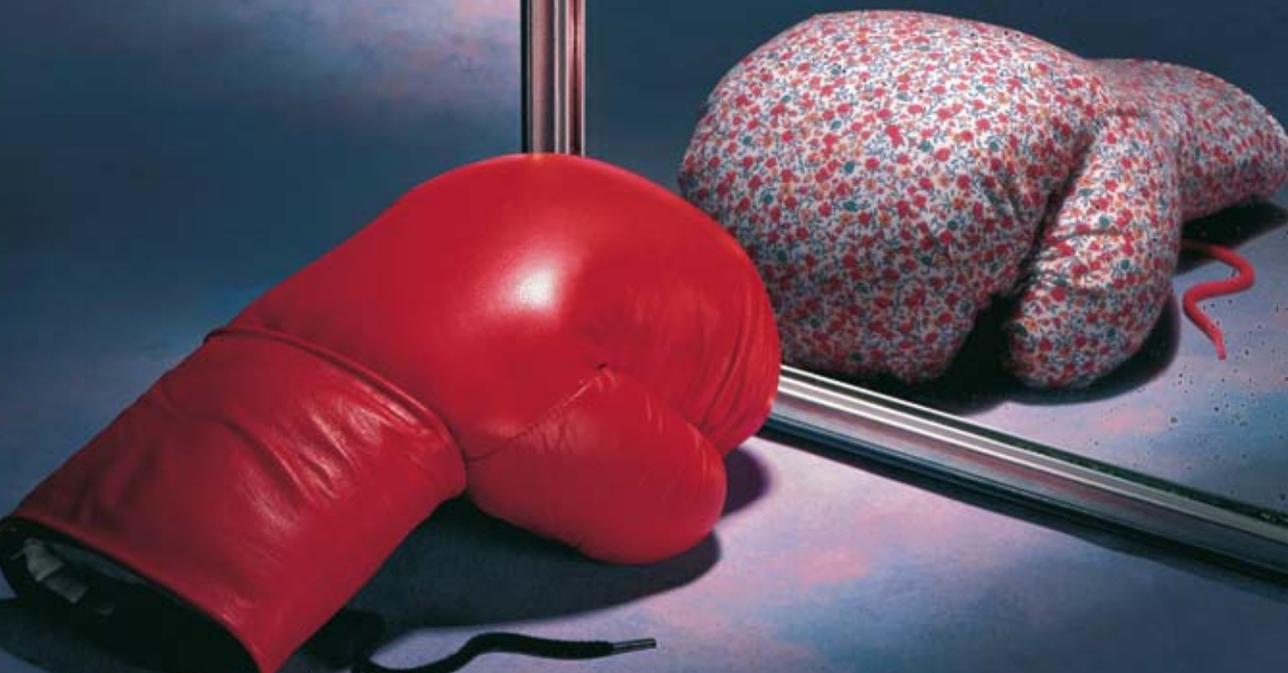
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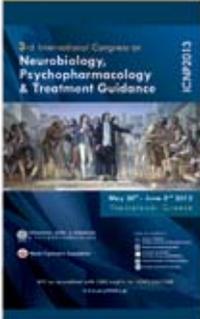
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Grigoris Abatzoglou, is psychiatrist and child psychiatrist, Professor of Child Psychiatry in the Aristotle University of Thessaloniki (Greece). He is the coordinator and the clinical responsible of the Child and Adolescent Unit of the 3rd University Psychiatric Clinic of the AHEPA General Hospital in Thessaloniki (since 1991) and he has developed a large network of collaboration between child mental health services and child protection services. He has studied Medicine in Thessaloniki and has been specialized in adult psychiatry and child psychiatry in France (University Pierre et Marie Curie, Faculty of Médecine Pitié-Salpêtrière, Paris VI). He worked in France until 1986 and in The Greek National Health Service as a child Psychiatrist until 1991. He obtained his PhD in Psychiatry (Aristotle University of Thessaloniki) in 1987. He is the author of two books and of many articles on psychiatry and child psychiatry issues, and he has also developed an important editorial activity. He is the president of the Greek Section of the World Association of Infant Mental Health.



Akiskal, Hagop S.
Distinguished Professor of
Psychiatry and Director of the
International Mood Center at the
University of California at San
Diego, USA

After matriculating with a baccalaureate in mathematics, he qualified in Medicine (AOA honors) at the American University of Beirut. As an undergraduate, he published poetry and wrote a thesis on metaphysics. As a senior medical student, he won first prize for his monograph, *Genes, Learning, and Sexual Behavior*, that was adapted for a course in the medical school curriculum. He obtained his psychiatric training at the Universities of Tennessee (Memphis) and Wisconsin (Madison), and research training at the Wisconsin Primate Laboratory. Appointed Professor of Psychiatry and Pharmacology at the University of Tennessee (1972-90), where he also served as research director of the Sleep Center and Neurophysiological Laboratory. He was subsequently recruited as the Senior Science Advisor to the Director of the National Institute of Mental Health (1990-94), followed by a brief stint as Special Advisor to the Director of Mental Health of the WHO (Geneva). He is presently Distinguished Professor of Psychiatry and Director of the International Mood Center at the University of California at San Diego, where he has concurrently served on the faculty of International Health and Cross-Cultural Medicine. He has also served as visiting clinical professor at McGill and Université Laval (Quebec, 1987-92). He is a foreign member of the Académie Nationale de Médecine [Paris], and he has received *doctor honoris causae* from the Universities of Lisbon (2003), Aristotle at Thessaloniki (2005), and the Armenian National Academy of Sciences (2007). Following the devastating 1988 Spitak earthquake, he led a US psychiatric delegation to Arme-



nia. For a decade, he also served as Honorary President of the Hungarian Psychiatric Suicide Prevention Society and l'Union Nationale des Dépressifs et des Maniaco-dépressifs (Paris). He is distinguished life fellow of the American Psychiatric Association, honorary member of the Royal College of Psychiatrists (UK), founding fellow of the International Society of Affective Disorders, founding chair of the private practice section of the World Psychiatric Association, honorary fellow of the Egyptian psychiatric association, and honorary member of Argentine, Peruvian, and Mexican Psychiatric Associations.

His advisory positions include, among others, European Science Foundation, the Stella Maris Foundation, and the Fundación Juan José López-Ibor. His 1973 paper in *Science*, "Unified Theory of Depression," bridged the challenging divide between psychosocial and biomedical perspectives. His research on chronic depressions as treatable mood disorders provided hope to millions of sufferers. His mood clinics have had worldwide appeal because of his philosophy of delivering high quality care while conducting clinical training and research. His research on the offspring of bipolar patients was among the first to delineate juvenile bipolarity. His concept of bipolar spectrum contributed to early diagnosis and recognition, thereby ushering the new era of research in bipolar disorders worldwide. Jointly with Kareen Akiskal, they developed the Temperament Evaluation of Memphis, Pisa, Paris and San Diego [TEMPS], now translated into over 25 languages. The couple has also studied the creativity of Blues musicians and Parisian writers and painters: Their research on cyclothymia in artists has been replicated at Harvard, Stanford, and Calgary (Italy). The TEMPS has been instrumental in identifying 4 genes involved in the temperamental pathways to bipolar disorder, and with Norwegian collaboration, genes shared by cyclothymia and migraines.

Prof. Akiskal is the author of over 400 journal articles, and is listed by Thomson ISI "top-10 most-cited researchers in psychiatry and psychology." He is also listed in Top Doctors and Best Doctors in America. In Biomed Experts, he is listed #1 in mood disorders and the psychometrics of Temperament. Fluent in 5 languages, he has been invited to lecture in over 70 countries. His most favorite presentations include "Bridging Art, Science and Practice" at the New Parthenon Museum (Athens) and a Radio City Show (New York) to de-stigmatize mental illness. He has organized numerous congresses, of which, his favorites are: "Can We Use Laboratory Tests in Psychiatric Diagnosis?" (Memphis, 1975) and "Fifty Years of Bipolar Treatments" (Monte Carlo, 2002). He is Editor-in-Chief of the *Journal of Affective Disorders* (Amsterdam) and Honorary Editor of *Psychopathology* (Heidelberg). Of his 20 books, *Bipolar Psychopharmacotherapy: Caring for the Patient* (2011, ed 2) is the latest. He has been decorated with numerous national and international prizes: Jean Delay Prize of the World Psychiatric Association,

Gold Medal of the Society of Biological Psychiatry, German Anna Monika Prize, the NARSAD Prize for Affective Disorders, the Ig Noble prize for “the chemistry of romantic love,” the Italian Aretaeus Prize, as well as “the lifetime achievement award” of the European Bipolar Forum (IRBD), the Mkhitar Heratsi Gold Medal [Yerevan State Medical University], and the “lifetime achievement award” of the Armenian American Medical Society of California, special commendations for service to the community from Governor Schwarzenegger and the Mayor of Memphis, Ellis Island Medal of Honor “for exceptional national humanitarian service”, and the Aristotle Gold Medal “for distinguished contributions to psychiatry, science, and humanity.”



Akiskal, Kareen

Director of Research
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Born in Beirut, Lebanon, where she attended the American University (BA, Psychology and MA, History of Fine Arts). She subsequently attended Ecole du Louvre and Ecole des Antiquaires, Paris, France. She is founding director of Galérie Modulart [of Modern Art]. She was clinically trained at the University of Tennessee Mood and Anxiety Clinics as well as at the Charter Lakeside Hospital, Memphis. To place the process of creativity on rigorous methodological ground, she helped develop, along with Hagop Akiskal, the Temperament Evaluation of Memphis, Pisa, Paris, and San Diego (TEMPS-A), now translated and validated in at least 12 languages. This led to collaborations with David Evans (the creativity of Southern Blues Musicians), and with researchers at the Universities of Milan, Pisa, Lisbon, and Stanford, showing that the temperament of creative artists is often cyclothymic and that leadership belongs to the hyperthymic realm. She has organized numerous exhibitions, such as the School of Paris (Picasso, Dali, Wunderlich), American Abstract Expressionists (Gottlieb, Motherwell, Rivers), One-man exhibitions of the Armenian painters (Minas, Guiragossian, Assadour, Carzou and Jansen), group exhibition of French-Armenian artists (Heidelberg), Egyptian Archaeological Jewelry, and that of Brazilian Artists (Memphis). She was a member of the American Academic Psychiatric Delegation to Aid Survivors of the 1988 Earthquake, Republic of Armenia, and her collection of children’s “earthquake art” led to exhibitions at the American Academy of Child Psychiatry (Chicago), the American Psychiatric Association (New Orleans), and Society for Traumatic Stress Disorders (Washington, D.C.). She is founding member of the International Alliance of Advocacy Organization for the Mentally Ill (Venice), as well as l’Union Nationale des Dépressifs et des Maniaco-dépressifs en France. She has contributed substantially to the literature on temperament, including its cultural and familial-genetic foundations. Bridging art and science, her vision has culminated in a novel synthesis (The theoretical underpinnings of affective temperaments: implications for evolutionary foundations of bipolarity and human nature, *J Affect Disord* 85:231-239, 2005).



Angelopoulos, Nikiforos V.
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Born in Athens. Studied Medicine at the Medical School of the Capodistrian University, Athens. After a scholarship from the Greek State Scholarship Foundation (IKY) and a financial support from the Onassis Foundation he went to St Marry's Hospital in London and worked as SHO and Senior Registrar in the Department of Psychiatry. Under the supervision of Professor RG Priest he received his Phd degree (Psychiatric Symptoms and changes in Hostility Structure) which was submitted to the University of London. From 1982 until 1990 he worked in the Department of Psychiatry, University Hospital of Ioannina as Lecturer and consequently as Assistant Professor. From 1990 until 2010 he worked in the Department of Psychiatry University of Thessalia Medical School as Assistant Professor, Associate Professor, Professor Director and Chairman at the Department of Psychiatry. Apart from his lecturing to the students and doctors specialising in psychiatry, he published numerous papers in Greek and English mostly from the area of psychosomatic medicine. He supervised 13 doctorship dissertations submitted to the Universities of Ioannina and Thessalia. Books: 1. Medical Psychology and Psychopathology, 2009. 2. Psychiatric Encyclopaedia, 2011 (in Press). Translations: 1. The Working Brain by Aleksander Luria, Kastaniotis Pubs, 1999. 2. The Man with a shattered world, by Aleksander Luria, Kastaniotis Pubs, 2002.



Bazanova, Olga M.
Leading researcher in EEG,
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In 1973 got her MSc in Human Physiology at the Novosibirsk State University, (Novosibirsk, Russia) and in 1980 her PhD in Human Physiology, at the National Cardiology Center, with thesis *Corticoids regulation vessels reactivity*. In 2009 she got her Science Doctor (DSc) degree in Psychophysiology at the Institute of Physiology SORAMN at Novosibirsk with a thesis *Individual EEG alpha activity indices and sensoromotor integration*. Currently she is Leading Researcher of the Biofeedback Computer Systems Laboratory, Biophysics and Bioengineering Department, Institute of Molecular Biology and Biophysics, Russian Academy Medical Sciences, Novosibirsk. Bazanova O.M. is the author of 45 peer-reviewed papers and 6 book chapters on the physiology and psychophysiology, 101 presentations at Russian and International conferences.

Current interests: (1) EEG alpha activity individual indices in dependence on age, sex menstrual cycle phase and psychomotor skill level; (2) Corticovisceral interrelations in cognitive and psychomotor peak performance, learnability and creativity; (3) Reinforcement alpha Neurofeedback technology; (4) Development the Simultaneous alpha-EEG enhancing and EMG decreasing biofeedback training technology for cognitive and psychomotor peak performance achievement.



Bitsios, Panagiotis

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Dr Bitsios studied medicine at the Aristotelian University of Thessaloniki. He trained in Psychiatry at the same university and having earned a State Scholarship in 1993, he went on to train in clinical-laboratory psychiatric research methods in England UK. In 1997, he earned a PhD in Psychopharmacology (on the development of the “fear-inhibited light reflex” – a psychophysiological paradigm for the study of normal and pathological anxiety in humans) from the University of Nottingham. After complementing his clinical psychiatric training in various hospital and community-based posts at Queen’s Medical Centre, and a Lecturer’s post at the University of Nottingham, he undertook Consultant duties at the General Hospital of Leicester UK, before he took a Lecturer’s post at the University of Crete in 1999. He is an Assistant Professor of Psychiatry since 2004 and a visiting Senior Research Fellow at the Institute of Psychiatry, King’s College London since 2006. The main focus of his work is on developing and exploring translational paradigms in humans for research in the psychoses, affective processing in mood disorders, anxiety and arousal. To this end, Dr Bitsios and his group study (endo)phenotypes such as the prepulse inhibition of the startle response and the modulation of startle and other reflex behaviors by affective states, threat, and arousal. They investigate the genetic architecture of these phenotypes, their association with cognitive functions, personality dimensions and their response to pharmacological and psychological interventions in health and disease. The central aim is to characterize these phenotypes, in the belief that this knowledge will inform us on core pathophysiological dimensions and the neurobiology of psychoses and anxiety. The hope is that this will aid psychiatric diagnosis, facilitate the development of customized treatments and ultimately improve patient care. Dr Bitsios has earned several poster prizes, awards and commentaries for his published research.



Bouras, Constantin

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Professor Constantin Bouras (M.D.) has worked since 1973 in the Department of Psychiatry, Division of Neuropsychiatry of the Geneva University Hospitals. He obtained his medical diploma in 1973 at the University of Athens (Swiss Diploma in 1982 at the University of Geneva) and acquired the title of specialist in pathology in 1988 at the University of Athens; recognized in 2004 in Switzerland. In 1987 he obtained the “Diplôme d’Etudes Approfondies en Neurosciences” at the Medical University of Marseille. Since 1992 he is Visiting Associate Professor of Neurobiology at the Mount-Sinai School of Medicine. “Privat docent” in 1990 and “chargé de cours” (senior lecturer) in 1994, he was named professor in 2004. Since 1994 he works as Chief of the Division of Neuropsychiatry in the Department of Psychiatry. He is currently Co-director of the Swiss Reference Center for the neuropathological diagnosis of neurodegenera-

tive disease. He is active in diagnostic, teaching and research activities.

His main research interests are clinicopathological correlations in the different types of dementia, mainly Alzheimer's disease. In the last years his group has also focused on vascular brain lesions which can have an important role in the development of cognitive decline. He is author or co-author of more than 250 publications with an *h-index* of 44.



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Dr Bozikas received his medical degree (1991), performed his residency in psychiatry (1999), and earned his PhD in psychiatry (2002) at the Aristotle University of Thessaloniki. He collaborated with the Division of Neuropsychiatry, at the University of Geneva in Switzerland investigating on the neuroanatomical substratum of depression in patient with cerebrovascular disease. He is the head of the inpatient service and the "Early Intervention in 1st Psychotic Episode" service of the department. He participates in psychiatric training of undergraduate and postgraduate students as well as of psychiatry residents. Dr Bozikas' fields of clinical and research interest are general psychiatry, biological psychiatry, psychopharmacology, neuropsychology, schizophrenia, and bipolar disorder. He has authored and co-authored more than 170 papers and 55 of them have been published in international peer review journals such as *Schizophrenia Research*, *Journal of the International Neuropsychological Society*, *Psychiatry Research*, *Comprehensive Psychiatry*, *American Journal of Geriatric Psychiatry*, *Stroke*, *Australian and New Zealand Journal of Psychiatry*, among others, with over 500 citations and impact factor 165. He authored or co-authored a number of chapters in books.



Buzzanca, Giuseppe

Ph.D., Professore di I Fascia Conservatorio di Musica di Stato "N. Piccinni" State Conservatory of Music, Bari, Italy

His professional interest pertains to the research in the field of music and artificial neural networks. The first attempts to codify human musical cognition through artificial neural networks are taken into account as well as recent and more complex techniques that allow computers to learn and recognize musical styles, genres, or even to compose music. Special topics of Buzzanca are related to the representation of musical language and to the different systems used for solving them, from classic backpropagation networks to self-organizing maps and modular networks. He is the author of 23 journals articles, chapters of books.



Calabrese, Francesca

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Francesca Calabrese attended the laboratory of the Prof. Marco A. Riva as undergraduate student at the Center of Neuropharmacology of the Department of Pharmacological Sciences, University of Milan (Italy) and she got her degree in Pharmaceutical Chemistry and Technology at the University of Milan in 2003. She then obtained the PhD in Pharmacotoxicological, Pharmacognostic Sciences and Pharmacological Biotechnologies at the Faculty of Pharmacy in 2007. She is presently Research assistant in the Department of Pharmacological Sciences, University of Milan.

Her scientific interest is focused on the regulation of neuroplastic molecules in animal models of psychiatric disorders (genetic and environmental-based models) as well as in response to pharmacological treatments with psychoactive drugs (anti-depressants, antipsychotics and psychostimulant).

She is author of 19 peer-reviewed papers, 7 as first author. She attended several international meeting and presented several posters on her research and, during these years, she received fellowship awards, travel grants and poster prizes.



Chouvarda, Ioanna

Lecturer in Medical Informatics,
Aristotle University of
Thessaloniki, Greece

Ioanna G. Chouvarda received the Diploma in Electrical & Computer Engineering (1993) and the Ph.D. (2002) in Medical Informatics all from Aristotle University of Thessaloniki (A.U.Th.), Greece. Her Ph.D. thesis was primarily focused on analysis of cardiac signals by means of time-frequency methods. She is currently with the Lab of Medical Informatics, A.U.Th., involved in R&D and educational duties (mainly at the Medical Informatics Postgraduate Studies). For the academic year 2007-08, she held a Visiting Lecturer position in the Medical School, A.U.Th. In 2011, she has been elected as Lecturer in Medical Informatics, AUTH.

Her research interests involve biomedical and bioinformatics signal processing, cardiac modelling, ehealth and telemedicine applications and medical information management systems. In her postdoc research, she has close cooperation with medical clinics and institutes. Up to date, she has been involved in numerous R&D projects in the e-health sector, and several basic research studies, as well as the supervision of student projects. She has authored or co-authored more than 100 international peer-reviewed journal and conference papers. Dr. Ioanna Chouvarda is Member of the IEEE and the Technical Chamber of Greece.

**Christodoulou, George**

Emeritus Professor of Psychiatry,
University of Athens, Greece

George Christodoulou M.D., Ph.D., F.I.C.P.M., F.R.C.Psych is Emeritus Professor of Psychiatry, University of Athens, Honorary President, Psychiatric Association for Eastern Europe and the Balkans, (WPA-affiliated), Chair, Conceptual Component, WPA Institutional Program on Psychiatry for the Person, President, Society of Preventive Psychiatry (Voting member of the WFMH, WPA-affiliated) and Member of the Board of Directors and Vice-President for Europe, World Federation for Mental Health. He served in various positions and boards of the WPA. He is also founder and Editor-in-chief, "Psychiatriki" (official Journal of the Hellenic Psychiatric Association included in the Pubmed data system) from 1990 to 1999, Honorary Editor since, Editor-in-Chief, "European Psychiatric Review", 2008 up to the present time and member in the Editorial or Advisory Board in 15 professional journals (including "International Psychiatry", "World Psychiatry", "Australia and New Zealand Journal of Psychiatry", "Psychotherapy and Psychosomatics", "Indian Journal of Psychiatry", etc). He acted as editor or co-editor in a number of WPA publications and newsletters. He is author of 450 journal articles, book chapters and abstracts, and 45 books. He is active in research in clinical psychiatry, psychopharmacology, psychosomatic medicine, preventive psychiatry, psychiatric education and psychiatric ethics. He also served a first President of the European Board of Psychiatry, UEMS, European Union, director, Athens University Department of Psychiatry 1996-2003, director, Sector of Social Medicine, Psychiatry and Neurology, Athens University (re-elected seven times) (1996-2003), expert of the Commission of the European Union in Biomedical Health Research, Vice-President of the European Union of Medical Practitioners, Section of Psychiatry, Chair, WPA Ethics Committee (2005-2008). He is or was President, officer or member in 27 scientific societies, President of the Hellenic Psychiatric Association, re-elected eight times. Now elected Honorary President. He has organized a number of congresses and served as invited speaker, chairman of sessions or active participant in 400 international scientific events. He served academic teaching for 35 years in Greece, the U.K. and as invited speaker in various countries (under-graduate, post-graduate, continuing medical education) and is visiting professor in Europe and USA (Harvard University). He holds a number of honorary positions in national psychiatric societies and scientific associations.



Constantinidis, Jannis

Professor of Medicine, 2nd Dept.
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Dr Constantinidis is full professor of medicine at the 2nd Dept. of Otorhinolaryngology, Head & Neck Surgery of Aristolte University of Thessaloniki and Full Professor of Medicine at the University of Erlangen-Nuremberg FAU Medical School. He is author or co-author of 90 papers included in Pubmed and 18 others (non Pubmed) as well as 21 chapters in books



Cookson, John

Consultant and Honorary Senior
Lecturer in Psychiatry at The
Royal London Hospital in London,
England, UK

John Cookson is a Consultant Psychiatrist at The Royal London Hospital in London, England.

He obtained a doctorate in pharmacology at Oxford, and studied clinical medicine at University College Hospital in London. His higher training in Medicine was in London, and in Psychiatry was at St. Bartholomew's and the Maudsley Hospitals.

Dr. Cookson is responsible for a catchment area service comprising a community mental health team and a general psychiatric ward, with access to a Home Treatment Team, an Early Intervention Service and an Assertive Outreach Team. He was consultant for a Psychiatric Intensive Care Unit from 1988-2007, and for a Specialist Addictions Unit from 1981-1996.

Dr. Cookson's research interests are in psychopharmacology and the use of drugs in psychiatry, particularly in relation to the treatment of bipolar disorder.

He has participated in the development of new drugs for bipolar disorder, schizophrenia, depression, social phobia, and panic disorder.

He serves on the editorial boards of *The British Journal of Psychiatry*, *International Clinical Psychopharmacology*, and *Advances in Psychiatric Treatment*.

He co-authored the fourth and fifth editions (2002) of *Use of Drugs in Psychiatry: The Evidence from Psychopharmacology*, published by the Royal College of Psychiatrists.

He participated in the British Association for Psychopharmacology (BAP) Guidelines for Bipolar Disorder, and the Guidelines of the World Federation of Societies of Biological Psychiatry (WFSBP) on bipolar disorder.

**Diakogiannis, Ioannis**

Associate Professor of Psychiatry,
3rd Department of Psychiatry,
School of Medicine, Aristotle
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Dr Ioannis Diakogiannis was born in Thessaloniki in 1956, and graduated from the American College of Thessaloniki. He received his medical degree from the Medical School of Aristotle University of Thessaloniki (AUTH) in 1980. He was specialized in Psychiatry in the 1st and 3rd Psychiatric departments of A.U.TH and in the Department of Psychiatry of the Yale University-USA. He received a fellowship in Substance Abuse Treatment Unit from the Yale University-USA. From 1991 to 1998 worked as a scientific associate in the Department of Psychiatry and the Department of Pharmacology of the Aristotle University of Thessaloniki while he achieved his doctorate thesis in 1992. In 1998 he became Lecturer in Psychiatry, in 2002 Assistant Professor and in 2008 Associate Professor. Since 1998 he is the head of the Drug Dependence Unit of the 3rd Department of Psychiatry of A.U.TH. Dr. Diakogiannis has co-authored more than 100 scientific papers which have been presented in scientific meetings or have been published in scientific journals. He is member of many Scientific Committees and national associate representative in the Scientific Committee of the European Center for Drugs and Drug addiction in Lisbon, Portugal. He is also a member of the European Commission's projects for Alcohol ("Bridging the Gap," "brief interventions for alcohol abuse" and "building capacity") and a member of the working group of the European Psychiatrists specialized in alcoholism. He is General Secretary of the Greek Society for the Study of Addictive Substances, member of the Advisor Committee of the South East European Society for Neurology and Psychiatry, member of the American Academy of Addiction Psychiatry, General Secretary of the branch for Psychiatry of addictions of the Greek Psychiatric Association and member of the editorial board of the scientific journal Biological Psychiatry and Neurology.

**Dikeos, Dimitrios**

Associate Professor of Psychiatry,
University of Athens, Greece

Dimitris G. Dikeos is an Associate Professor of Psychiatry at the 1st Department of Psychiatry of Athens University Medical School, Athens, Greece and a Visiting Research Associate at the Division of Psychological Medicine, Institute of Psychiatry, King's College London, London, UK. His research activities have focused on psychiatric genetics, sleep research, psychopharmacology and clinical studies in psychiatry. He has participated in various Multicentre Research Programmes in Europe and the U.S.A. such as: European Science Foundation, European Collaborative Studies of Affective Disorders, Johns Hopkins Genetic Epidemiology Schizophrenia Program, Meta-analysis of Sleep Laboratory Studies on Tolerance and Rebound Insomnia with Rapidly Eliminated Hypnotics, Maudsley Family Study, European Collaborative study by the Group for the Study of Resistant Depression, International Multicentre Study "FACTOR", etc. He is or has been member of various scientific and

professional Societies and Boards, as well as member of the Executive Committees of the Hellenic Sleep Research Society, the International Neuropsychiatric Association, the Athens Medical Society, the Hellenic Society for the Advancement of Psychiatry and Related Sciences. He has also served as member of the Editorial Board of the "Archives of Hellenic Medicine" and is a reviewer in many international Journals. Dr. Dikeos is the author or co-author of more than 100 full publications, out of which 50 articles in SCI Journals, among which: American Journal of Medical Genetics, British Journal of Psychiatry, Current Opinion in Psychiatry, International Clinical Psychopharmacology, Journal of Psychosomatic Research, Molecular Psychiatry, Nature Genetics, Psychiatric Genetics, and Science.



Dimellis, Dimos

Consultant at the rank of Lieutenant Colonel, Psychiatric department, 424 General Military Hospital, Thessaloniki, Greece

Graduated from the Medical School of Aristotle University of Thessaloniki in 1994, and completed his residency in psychiatry in 2002. He served as consultant, Psychiatric department, 404 General Military Hospital, Larissa, Greece (2003-2004) and currently is consultant at the rank of Lieutenant Colonel, Psychiatric department, 424 General Military Hospital, Thessaloniki, Greece, and also private practice ("EGO IDEAL", Private Institute of Mental Health). He is scientific associate, 2nd Psychiatric Department, Aristotle University of Thessaloniki (2006 - Today) and responsible for the continuous seminars of "Psychobiology" and "Psychopharmacology". As from 2007 he prepares his doctorate thesis ("Detection of bipolarity in Major Depressive disorder"). His interests include Psychopharmacology, Schizophrenia and other Psychotic disorders, Bipolar Spectrum disorders. He has participated in more than 50 International and Regional and meetings and congresses and was invited speaker for various scientific associations.



Douzenis, Athanasios

Assistant Professor in Forensic Psychiatry, 2nd Psychiatry Department at Attikon University General Hospital, Athens University Medical School, Greece

Athanasios Douzenis qualified in Medicine in 1985 from the Ioannina Medical School and did higher psychiatric training in the UK receiving an M. Med. Sci from Sheffield University Medical School. He trained in psychiatry in England (Sheffield and London) and became MRCPsych in 1992. He completed his doctorate in Athens University Medical School on Forensic Psychiatry under the supervision of Prof. Stefanis. Since his return in Greece (1995), he worked with OKANA where he helped establish the first substitution programme in Greece and was head of the largest methadone unit in Athens. He became a lecturer in Forensic Psychiatry in 2000 and Assistant Professor on the same subject in 2005. Initially he worked in Eginition Hospital and later moved on with Prof Soldatos and Lykouras to establish the Second Athens University Psychiatry Department in Attikon Hospital. He has published 2 books about Forensic Psychiatry, has written more than 30 chapters in psychiatric books (3 with international publishers) and has 36 SCI

publications. He has participated in numerous national and international psychiatric conferences. He is heading the Forensic Psychiatric Unit in the Second Psychiatry Department which is the only Forensic Unit in Greece.

He is President of the Section of Forensic Psychiatry of the Greek Psychiatric Association and is the publisher of the journal "Ate" (Ατη).

He is married and has three children.



Economou, Achilleas

Resident in Psychiatry, "18 Ano"
Alcohol Disorders Outpatient
Clinic, Psychiatric Hospital of
Attica, Greece

Achilleas Economou has graduated from the Medical School of the Aristotle University in Thessaloniki. He is holder of an MSc in Health Care Management of the Hellenic Open University in Patras. He is currently working as a psychiatric trainee at the department of 18 Ano Alcohol Disorders Outpatient Clinic of the Psychiatric Hospital of Attica. He has received training in CBT and Systemic-Family therapy. He is author of the chapter "Serotonin Syndrome" of a book currently under publication entitled "Soldatos K. Dikaios D., Clinical Psychopharmacology". He is the President of the Hellenic Association of the Psychiatric Trainees and has represented his colleagues in international forums.



Erfurth, Andreas

Head of Clinical
Psychopharmacology and the
Bipolar Spectrum Disorders
Program, Division of General
Psychiatry, Medical University of
Vienna, Austria

Priv.-Doz. Dr. med. Andreas Erfurth was born in Hamburg, Germany in 1961 and received his education at the Conservatorio di Musica di Santa Cecilia, Rome, Italy, the Richard-Strauss-Konservatorium, Munich, Germany and the Medical School, University of Munich, Germany.

He was resident in psychiatry at the University of Munich, Germany and was research fellow at the Laboratory of Neuroendocrine Regulation, Department of Brain and Cognitive Sciences, M.I.T., Cambridge, Massachusetts, U.S.A.

Hospital appointments include the University of Munich and the University of Muenster, Germany, where he wrote his habilitation thesis.

At present Dr. Erfurth is head of Clinical Psychopharmacology and of the Bipolar Spectrum Disorders Program, Division of General Psychiatry, Medical University of Vienna, Austria. He is secretary of the European Bipolar Forum (www.EuBF.org) and of the Verein für Psychiatrie und Neurologie, Vienna. He was co-founder and secretary of the German Society for Bipolar Disorders.

His is particularly interested in the diagnosis, neurobiology and therapy of affective disorders.



Ershova, Tatyana A.

Senior Researcher, the National
Research Centre Institute for
Biomedical Problems of the
Russian Academy of Sciences,
Moscow, Russia

Tatyana A. Ershova was born at 24 January 1982 junior research fellow in Institute of Medical and Biological Problems Russian Academy of Sciences (Moscow, Russia), has 10 publications. Field of interest - Psychophysiological features of astronaut peak performance, biofeedback training.



Foroglou, Nikolaos

Assistant Professor of
Neurosurgery, Aristotle
University of Thessaloniki Greece

Nikolaos Foroglou, MD, PhD has graduated from the Medical School of the Aristotle University of Thessaloniki in 1993. Following his military service and his community medical service in the mountains of North Greece, he received the Diploma of Clinical Neurology from the National Hospital for Neurology and Neurosurgery, Queen Square, London in 1996. Thereafter he returned in Thessaloniki, Greece to complete his residency in the AHEPA University Hospital. After being certified from the National Board and the European Board in the same year (2001) he moved to Boston, USA for a fellowship on neurology at the Brigham & Women Hospital, affiliated hospital to Harvard University. There he was trained in modern neurosurgical approaches for brain tumors such as awake craniotomy, intraoperative imaging and neuromonitoring. In his way back he did a fellowship in Functional Neurosurgery (epilepsy, movement disorders, pain, spasticity) in the University Hospital of Lausanne, Switzerland.

Elected in the Aristotle University of Thessaloniki in 2002, he is currently working at the AHEPA University Hospital as Assistant Professor performing all modern techniques on brain tumor surgery (local anesthesia, neuronavigation, neuromonitoring, intra-operative imaging) and endoscopic techniques (third ventriculostomy for hydrocephalus, endoscopic transnasal approach for pituitary adenomas)

He is currently leading a research program on brain mapping and has published 16 papers in international peer reviewed journals and authored 3 chapters book in international editions.

Nicolas Foroglou is member of many international neurosurgical societies (Congress of Neurological Surgeons-USA, member of the Tumor section of CNS/AANS-USA, Societe de Neurochirurgie de langue francaise, European Society of Stereotactic and Functional Neurosurgery, European Association of Neuro-

Oncology, Low Grade Glioma European Network, European Association of Neurosurgical Societies-individual member). He is member of the Post-graduation Education and Research committees of the European Association of Neurological Societies, member of the Executive Committee of the Hellenic Neurosurgical Society and member of the Hellenic Spine Society.



Fountoulakis, Konstantinos N.
Assistant Professor of Psychiatry,
3rd Department of Psychiatry,
School of Medicine, Aristotle
University of Thessaloniki, Greece

Dr. Fountoulakis received his medical degree (1989), performed his residency in psychiatry (1998), and earned his PhD in psychiatry (1999) at the Aristotle University of Thessaloniki. He received a 3-year fellowship in psychosomatic medicine and a 1-year postdoctoral fellowship for research from the State Scholarships Foundation of Greece. Until 2003 he served as a medical officer in the Greek Armed forces retired with the rank of major. In 2005, Dr. Fountoulakis was a Research Fellow in the Department of Psychiatry, Division of Neuropsychiatry, at the University of Geneva in Switzerland.

Dr. Fountoulakis' areas of clinical and research interest are reflected in the topics that he teaches: general psychiatry, biological psychiatry, psychopharmacology, mood disorders, schizophrenia and personality disorders. He is an active member of a number of national and international professional organizations, including the EPA, APA, WPA, CINP, ECNP, ISAD, ISBD, EBF and others, peer referee for the Cochrane Collaboration and was most recently a member of the Collegium Internationale Neuro-Psychopharmacologicum (CINP) Advisory Board to the Task Force on the Usefulness of Antidepressants and the Mental Health Economics Task Force of the International Psychogeriatric Association (IPA).

He chairs the ISNP and since 2006, he served as Secretary, and since 2008 as co-chair of the Private Practice Section, of the World Psychiatric Association. He is Chair of the CINP Credentials and Membership Committee and of the Neuropsychological and Psychometric Instruments Section, of the Greek Psychiatric Association.

Dr. Fountoulakis is Editor in Chief of *Annals of General Psychiatry* and is Section Editor of *Current Opinion in Psychiatry*. He has coauthored more than 350 papers delivered to congresses and more than 120 of them are published in international journals such as the *LANCET*, *Biological Psychiatry*, *International Journal of Neuropsychopharmacology*, *Journal of Affective Disorders*, *Schizophrenia Research*, *Psychiatry Research*, *Bipolar Disorders*, *Annals of General Hospital Psychiatry*, and the *British Journal of Psychiatry*, among others, with over 1200 citations and h=21. He authored or co-authored a number of chapters in books including the Mood disorders chapter for the Wiki project of the World Psychiatric Association (WPA). He has received a number of national and international research awards.

In 2009 was appointed member of the Greek Ministry of Health Committee for the Administrative, Economic and Scientific Supervision of the Mental Health Units of the deinstitutionalization project.



Garyfallos, George
Assistant Professor of
Psychiatry, Aristotle University
of Thessaloniki, 2nd Department
of Psychiatry of the Psychiatric
Hospital, Thessaloniki, Greece

George Garyfallos M.D., Ph.D. is an Assistant Professor of psychiatry at the Aristotle University of Thessaloniki, 2nd Department of Psychiatry of the psychiatric Hospital, In Thessaloniki, Greece.

Dr. Garyfallos received his medical degree (1976), performed his residency in neurology and psychiatry (1981) and earned his Ph.D. in psychiatry (1985) at the Aristotle University of Thessaloniki. He made further postgraduate studies at the United Medical and the Dental Schools of Guy's and St Thomas's Hospital, Division of Psychiatry (Chairman Prof. JP. Watson), London, (1988-1989). There, he is trained in Cognitive-Analytic Therapy, Marital Therapy and Crisis intervention. He worked in the NHS, in Greece at the 2nd Dept. of Psychiatry of the Aristotle University from 1981 - 2006. From 1996-2006 he was, as a consultant of Psychiatry, the head of Mental Health Center of N/W District, Thessaloniki, Greece, while offered, at the same time clinical and educational work in the 2nd Dept. of Psychiatry of the Aristotle University. At 2006 he has been elected assistant professor of Psychiatry. Since 1981, Dr. Garyfallos participates in psychiatric training of undergraduate and postgraduate students, as well as, of residents in psychiatry. Since 2008, he is the tutor of the training program of the 2nd Dept. of Psychiatry of the Aristotle University, for psychiatry residents.

Dr. Garyfallos' fields of clinical and research interests are psychopathology, psychopharmacology and psychotherapy. He has authored and co-authored more than 250 papers, 35 of them have been published in international peer review journals such as *Acta Psychiatrica Scandinavica*, *Br. J. Psychiatry*, *Compr. Psychiatry*, *Psychiatry Research*, *Schiz. Research* etc. with over 350 citations and impact factor 76. He also authored a number of chapters in books. Dr. Garyfallos is one of the two national delegates, of the Hellenic Psychiatric Association, at the UEMS. He is a member of several national and international psychiatric associations and is/was member of the executive council of such associations or sections.

**Giannakopoulos, Panteleimon**

Professor of Psychiatry and Full Professor of Old Age Psychiatry at the University of Lausanne, Switzerland

Panteleimon Giannakopoulos is Full Professor of Psychiatry and Full Professor of Old Age Psychiatry at the University of Lausanne, Switzerland. Currently he is Medical Director of the Division of General Psychiatry and Chairman of the Department of Mental Health and Psychiatry at the University of Geneva Hospitals. He received his medical degree from the Medical School of the University of Athens, Greece (1988) and obtained his Thesis in Medicine at the University of Geneva School of Medicine, Switzerland (1989). He became Privat-Docent at the University of Geneva, School of Medicine, Switzerland (1996). He obtained a clinical and research fellowship, Memory Clinic of the Pitié-Salpêtrière Hospital (Prof. Y. Agid) and Laboratory of Molecular Genetics, CNRS (Prof. J. Mallet), Paris, France (1994-1996). He obtained his board certification as specialist in psychiatry and psychotherapy by the Swiss Chamber of Physicians (1999). He is Member of the Executive Committee of the Medical Direction, University Hospitals of Geneva, Associate Vice-Dean of the University of Geneva School of Medicine (july 2003-july 2011), Chief of the Hospital Department of Psychiatry (january 2005-), Member of the WHO ERC Committee (january 2005-april 2007), Member of the Committee of Direction HUG (april 2005-). Among his major research achievements are the identification of EEG activation predictive markers for rapid cognitive decline in mild cognitive impairment, the definition of the relative weight of AD and vascular lesions in cognitive decline, the validation of clinical criteria for vascular dementia and the exploration of inflammation-related molecular targets for the treatment of cerebral ischemia. He has 164 publications with h=31. He acts as reviewer in a number of journals and institutions including Neuroscience Letters, Brain, Annals of Neurology, Acta Neuropathologica, Progress in Neuropsychopharmacology and Biological Psychiatry, European Neurology (member of the Board), European Psychiatry, Brain Research Reviews, Experimental Neurology, Neuropsychologia, Neurology, Lancet, J Neurochemistry, Experimental Brain Research, Experimental Eye Research, Neurobiology of Aging, Journal of Neurology, Neurosurgery and Psychiatry, Cerebrovascular Diseases, Cortex, Swiss National Foundation for Research (SNFR), INSERM.



Giouzevas, Ioannis

Professor of Psychiatry, Director
of the 2nd Department of
Psychiatry, Aristotle University of
Thessaloniki Greece

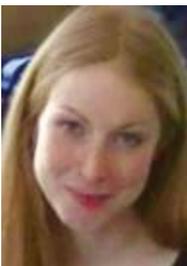
Professor Ioannis Giouzevas received his medical degree from the School of Medicine, Aristotle University of Thessaloniki under a scholarship from the Foundation of National Scholarships (IKY) and he was specialized in Psychiatry at the 2nd department of Psychiatry of the same University. From 1981-4 he was trained at the Institute of Psychiatry London UK in psychiatric epidemiology and social psychiatry. He received a second scholarship from IKY. From 1987-90 he was director of the North-West sector Center for Mental Health and of the Central sector from 1996-9. Currently he is director of the 2nd Department of Psychiatry at Aristotle University of Thessaloniki. He has supervised 38 PhDs. He is author or co-author of more than 200 papers presented in congresses and published in peer-reviewed international journals. He served for years as member of the board, and currently his is President of the Hellenic Psychiatric Association



Gkontra, Xenia

Research Assistant at Informatics
and Telematics Institute - CERTH,
Thessaloniki, Greece

Polyxeni Gkontra is an Electrical and Computer Engineer. She graduated from the Aristotle University of Thessaloniki (AUTH) in 2008. She is currently studying for the Masters in Medical Informatics at AUTH. Polyxeni is presently Research Assistant at Informatics and Telematics Institute - CERTH. Her scientific interests and research include medical/biomedical image and signal processing and analysis. Previously she was Research Assistant at the Laboratory of Medical Informatics at AUTH where she worked on medical image and signal processing. Prior to that, she undertook an internship at the Department of Signal and Image processing at Telecom ParisTech - CNRS. She is fluent in Greek, English, French and Spanish.



Gonda, Xenia

Clinical Psychologist and
Pharmacist, Associate Professor,
Department of Clinical and
Theoretical Mental Health
of Semmelweis University,
Budapest, Hungary

Xenia Gonda MA PharmD PhD is a clinical psychologist and pharmacist working as associate professor at the Department of Clinical and Theoretical Mental Health of Semmelweis University, Budapest. Her main research interests include personality genetics, neurobiology of suicide and bipolar disorders, effects of seasonality and birth season, and mood fluctuations related to the reproductive cycle.

**Grigoriou, Panagiotis**

Director, NHS Department of Psychiatry, General Hospital of Chalkidiki, Makedonia, Greece

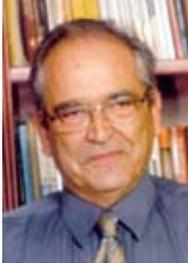
Panagiotis G. Grigoriou M.D., Ph.D., works as a Medical Director of the Department of Psychiatry at the General Hospital of Chalkidiki, Macedonia-Greece. He received both his M.D. and Ph.D. degrees from the University of Athens. He completed his postgraduate training in Neurology and Psychiatry at the Athens University School of medicine. He has been a fellow in Neurology at the "Clinique des maladies du Systeme Nerveux", Hopital Salpetriere- Paris and a fellow in Psychiatry at the "Institute of Psychiatry and Human Behaviour", University of Maryland-Baltimore MD. He accomplished a long training in Group and Family Therapy at the " Athens Human Study Center" under the supervision of the late George Vassiliou M.D. Working as a Neurologist and Psychiatrist at the "Evangelismos" and the "Red Cross" hospitals in Athens he acquired a valuable and rich clinical experience. Since 1988 he voluntarily abandoned his career in Athens and was installed in Chalkidiki driven by the ideals of Social and Community Psychiatry. His primary aim was to provide psychiatric care of high quality to people who would never had such an opportunity; Chalkidiki, an otherwise natural "paradise"- was completely naïve of any psychiatric service. Having staffed his working team with excellent mental health professionals and due to his personal devotion and hard efforts he has created a full net of psychiatric services able to meet adequately the needs of the whole region. Furthermore, another goal he has worked hard on is the population's education on mental health issues as well as the fight against social stigma. Finally, he has participated in several multi-centric clinical studies and attends regularly the most important national and international Psychiatric conferences and congresses.

**Grunze, Heinz**

Professor of Psychiatry,
Newcastle University, Newcastle
upon Tyne, UK

Professor Heinz Grunze qualified for medicine at the University of Aachen, Germany before taking up research fellowships at Max Planck Institute of Psychiatry, working in Freiburg, Germany, and later with Prof. McCarley at the Neuroscience lab of Harvard Medical School, Boston, USA. He was Senior Registrar at the Department of Psychiatry, Universitätsklinik, Freiburg, followed by Consultant and Lecturer in Psychiatry in the Department of Psychiatry, Ludwig-Maximilians-Universität, Munich, Germany. Currently, he is Professor of Clinical Psychiatry at The Institute of Neuroscience at Newcastle University, UK and Honorary Consultant for the Northumberland, Tyne & Wear NHS Foundation Trust. His clinical duties centre on the Regional Affective Disorder Service for the North of Britain. As an active researcher, Professor Grunze has published numerous journal articles, reviews, books and book chapters on his main areas of interests, which include the neurobiology and treatment of bipolar disorder, depression and schizophrenia. Professor Grunze is a member of several national and international neuroscience and psychopharmacology associations, and has received several grants from the Deutsche Forschungs-

gemeinschaft, the UK National Institute for Mental Health Research and a Stanley Foundation International Center Award for clinical studies in bipolar disorder.



Iacovides, Apostolos

Professor of Psychiatry and
Chairman of the 3rd Psychiatric
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General Hospital, Thessaloniki,
Greece

Apostolos I. Iacovides, MD, PhD, is Professor of Psychiatry and Chairman of the 3rd Psychiatric Department of Aristotle University of Thessaloniki, at AHEPA University General Hospital in Thessaloniki, Greece. He received his medical degree (1974) and performed his residency in Neurology-Psychiatry (1978). During the period 1978-1986 worked as a Scientific Associate at the Educational Branch of Aristotle University in the General Hospital of Alexandroupolis, which was the first General Hospital Psychiatric Department in Greece. He obtained his PhD in Psychiatry in 1985. Since 1987, he has been working in the 3rd Psychiatric Department of Aristotle University of Thessaloniki, at AHEPA University General Hospital in Thessaloniki, as Lecturer at first (1987-1991) and then as a Assistant Professor (1991-2001), as Associate Professor (2001-2007) and as Professor of Psychiatry (2007-to date). He has undertaken the Chair of the 3rd Psychiatric Department of Aristotle University of Thessaloniki since 2010. His clinical, research and teaching work embraces various topics of Clinical Psychiatry, such as Psychopathology, Psychosomatics, BioPsychoSocial approach, Consultation-Liaison Psychiatry, Psychopharmacology, Community Psychiatry, Psychotherapy etc. The 3rd Psychiatric Department which he runs, includes in-patient and out-patient services and facilities, not only in a tertiary setting but also connected with primary care. Prof. Iacovides has co-authored more than 400 scientific papers, including presentations in congresses and congress supplements, books or book chapters and more than 65 published in international journals, such as British Journal of Psychiatry, General Hospital Psychiatry, Schizophrenia Research, Psychiatry Research, Annals of General Hospital Psychiatry, Biological Psychiatry, International Journal of Neuropsychopharmacology, Journal of Affective Disorders, Current Opinion in Psychiatry, Acta Psychiatrica Scandinavica, Psychopathology, Nephron, European Psychiatry and Neuropsychobiology, among others. His publications have yielded more than 700 citations (H=16). He was the chairman of the organizing committee of the "1st Congress of Biopsychosocial Approach in Medical Care" (March 17-19, 2011) and the "1st Educational Meeting in Psychosomatic Medicine" (October 15, 2011). During March 15-17, 2012, the "2nd Congress of Biopsychosocial Approach in Medical Care" is going to take place in Thessaloniki. His teaching work is addressed to both undergraduate and postgraduate medical studies. He has also organized programs of mental health professionals' training. He is a member of various national and international scientific associations.



Ierodiakonou, Charalambos
Emeritus Professor of Psychiatry
at the Aristotle University of
Thessaloniki, Greece

Charalambos Ierodiakonou is Emeritus Professor of Psychiatry at the University of Thessaloniki and Visiting Professor at Boston University. His main interests have been Psychoanalytic psychotherapy, Child psychiatry, and lately Philosophy and psychiatry. He made research studies on those topics, about which he lectured and presented them in Greek and International Journals. He is the Greek representative on the International Board of the "American Journal of Psychotherapy"

He has been doing pioneering work by introducing for the first time in Greece new types of Services: University Child Guidance Clinic (1958), Students' Psychotherapy Clinic (1960), Psychiatric Departments in General Hospitals (1978, 1986), Mental Health Mobile Units for the countryside (1980, 1987), plans for an Adolescents' Centre (1996). At the same time he acted as Supervisor in the training of many (later distinguished) psychiatrists.

Prof. Ierodiakonou has published five books on psychoanalytic and therapeutic themes, and recently four others after his research of psychological issues in Aristotelian philosophy. His last title is: "The Psychology of Aristotle: from a psychoanalytic therapist's perspective" (Karnac, London 2011).



Ierodiakonou-Benou, Ioanna
Assistant Professor of Psychiatry,
3rd Department of Psychiatry,
Aristotle University of
Thessaloniki, AHEPA University
General Hospital, Thessaloniki,
Greece

Dr Ioanna Ierodiakonou-Benou was born in Thessaloniki in 1956, she graduated from the Medical School of Aristotle University of Thessaloniki in 1981 and she received her specialty in Psychiatry in 1988.

She attended a 4-year postgraduate course in Psychoanalysis and Psychoanalytic Psychotherapy in the Adolescent Unit of the Tavistock Clinic of London and she earned her PhD in 1994.

She has served as a Consultant of the National Health System in the Department of Psychiatry of the "Ippokratation" General Hospital of Thessaloniki for 10 years. Since 2000 she works at the 3rd Department of Psychiatry, Aristotle University of Thessaloniki at AHEPA Hospital. Today is Assistant Professor of Psychiatry and in charge of the Psychotherapeutic Service of the Department.

Her clinical, teaching and research work focuses on the Psychoanalysis and the Psychoanalytic Psychotherapy in clinical psychiatry and on Consultation-Liaison psychiatry. Her main research interests include suicidal behavior, psychotherapy in the General Hospital, perinatal mourning and psychotherapy of chronically suffering patients.

She participated with presentations and scientific papers in International and National Scientific Meetings and with publications in International and National scientific journals.

Dr Ioanna Ierodiakonou-Benou is member in 7 International Scientific Societies and 5 Hellenic.



Ignatiou, Maria

Teaching Associate, T.E.I of
Epirus, School of Health &
Welfare, Department of Speech
and Language Therapy, Ioannina,
Greece

Maria Ignatiou is M.Sc. Speech Language Therapist with particular interest in neurogenic disorders. She is a member of RCSLT. She got her Hons B.Sc as a speech language therapist in 2007 and her Master degree in Human Communication at City University London (2010). She is a collaborator at T.E.I. of Epirus - Speech and Language Therapy Department.

Maria's research interests focus on the quality of life in people with aphasia or dementia. But she is also interest in pediatric population especially in language processing and phonological problems in children. Also her current research interests are to create scales for the quality of life in people with aphasia or dementia and to standardize tests for the Greek population.



Iliadou, Vassiliki

Assistant Professor of
Psychoacoustics, Medical
School, Aristotle University of
Thessaloniki, Greece

Vasiliki-Maria (Vivian) Iliadou is Assistant Professor of Psychoacoustics, Medical School, Aristotle University of Thessaloniki, Greece. He has established and currently runs the Auditory Processing Disorder Clinic of AHEPA University Hospital from 2009-today. She is Chief of Psychoacoustics Laboratory of Aristotle University of Thessaloniki 2005-today. She served as Guest Editor of special APD issue in Current Pediatric Reviews in August 2011. Her 18 publications have yield 122 citations from papers published in Audiological, Neuroscience, Otorhinolaryngological and Genetic international peer-reviewed journals. She serves as reviewer for: Archives of Disease in Childhood (a BMJ Journal), International Journal of Pediatric Otorhinolaryngology, Journal of Pediatric Biochemistry, and European Journal of Neuroscience. She is Honorary Research fellow in: Clinical Psychoacoustics Laboratory, Neuroscience Division, Lund, Sweden; Speech & Hearing Department OHIO State University, Columbus, USA; APD Clinic Children's Great Ormond & National Neurology-Neurosurgery Hospital, London, UK; MRC Institute of Hearing Research, Clinical Section, Nottingham, UK; Ear Institute London & Academic Audiology UCL.

**Kalemi, Georgia**

Psychologist, 2nd Department
of Psychiatry, Medical School,
National Kapodistrian University
of Athens, Attikon Hospital,
Greece

Georgia Kalemi graduated from Technical School of Athens and acquired a Bachelor in Health Visiting (1989-1993). She has also acquired a Bachelor in Psychology from Social Sciences Scholl, University of Crete (2000-2002) and later a Master in sciences (MSc) in Social Psychiatry (Adults and Children) in Medical School, University of Ioannina (2003-2005). She has been trained in Psychodynamic Approach in the Hellenic Psycho-Analytical Society, with Mr. Sakelaropoulos and Mrs. Karamanolaki as supervisors. She has attended a Frame Program for Training of Dedicated Psychotherapists MUVI entitled "Counseling in men who are violent towards their partners", trained by Mr. Per Isdal, Clinical psychologist, Alternative to Violence (ATV). She has also been trained in Psychometric Evaluation with MMPI-2 MMPI-1, WAIS-III, PDQ-4 etc.

She started working as a Health Visitor at Pathological Clinic in "St. Helen", Pireus (1993-1996). Later she worked as a Health Visitor at C.S.D.C., National Health Ministry, (1996-1997) and then at Nikea General Hospital (1997-2003).

She started working as a Psychologist at the Department of Psychiatry in Nikea General Hospital (2003-2004). From 2004 until now she has been working as a Psychologist at the 2nd Department of Psychiatry, Medical School, National Kapodistrian University of Athens, Attikon Hospital. She is responsible for Counseling and Psychotherapy of inpatients (psychodynamic approach), Counseling and Psychotherapy of outpatients, Psychometric evaluation and she also participates in the Forensic Psychiatry Department.

**Kasper, Siegfried**

Professor and Chair, Department
of Psychiatry and Psychotherapy,
Medical University of Vienna,
Austria

Dr Siegfried Kasper is Professor of Psychiatry and Chairman of the Department of Psychiatry and Psychotherapy at the Medical University of Vienna, Austria. Dr. Kasper published 724 in ISI (<http://portal.isiknowledge.com>) listed publications (Citation Index: 6989, Hirsch-Index: 43) and more than 200 book chapters, in various areas of psychiatry. Dr. Kasper serves on the executive committees and advisory boards of several national and international societies, such as the European College of Neuropsychopharmacology (ECNP) and the Collegium Internationale Neuro-Psychopharmacologicum (CINP). He is president of the Austrian Society of Drug Safety in Psychiatry (ÖAMSP) and past-president of the Austrian Society of Neuropsychopharmacology and Biological Psychiatry (ÖGPB). Furthermore, he is an honorary member of the Czech and Romanian Societies of Neuropsychopharmacology, the Hungarian Psychiatric Association and a Fellow of the Royal College of Psychiatrists, UK, as well as of the Ukrainian Association of Psychiatry. In 1997, he was the president of the 10th ECNP Congress, was the chairman of the local organizing committee of the WPA Thematic Conference in 2004 and is the co-chair of the local organizing committee of the WFSBP Congress 2005 in Vienna.

Furthermore, he has been appointed honorary Professor at the University of Hong Kong, China. Dr. Kasper has been elected as President of the World Federation of Societies of Biological Psychiatry (WFSBP) for the term 2005-2009. Dr Kasper serves on editorial boards of numerous learned journals (total 51), including Journal of Clinical Psychiatry, European Archives of Psychiatry and Neuroscience, Comprehensive Psychiatry, and European Neuropsychopharmacology. He is Co-Editor-in-Chief of the International Journal of Psychiatry in Clinical Practice, Editor of the World Journal of Biological Psychiatry, and Field Editor of the International Journal of Neuropsychopharmacology.



Klein, Anders Bue

Centre for Integrated Molecular
Brain Imaging (CIMBI),
Neurobiology Research Unit,
Copenhagen University Hospital,
Copenhagen, Denmark

Anders Bue Klein has a bachelor's degree in sports science and biology and a master degree in human biology, including a one-year project at Lundbeck on effects of antidepressant treatment on neurogenesis. Then he worked as a research assistant at Institute for Molecular Neuropathology, University of Copenhagen for one year, before starting a graduate program at Copenhagen University Hospital, Neurobiology Research Unit. The PhD thesis was describing interactions between BDNF and the serotonergic receptor system. He did a part of the thesis work in Maribel Rios' lab in Boston working on conditional BDNF knock-out mice. Currently, Anders is affiliated as a post doc at the Neurobiology Research Unit in Copenhagen, working on BDNF regulation in human subjects and in animal models.



Kleisas, Spyridon

Resident in Psychiatry,
1st Psychiatric Department,
Psychiatric Hospital of Attica,
Greece

Kleisas Spyridon received his MD in the English program of the Pécs University Medical School in Hungary. He is a 5th year psychiatry resident at the Psychiatric Hospital of Attica in the 1st Psychiatric Department and he completes his Psychiatric training on January 2012. He is author of "Internet for doctors" book published in 2002 by Anubis publications, and has also worked as a part-time medical translator since 2005 cooperating mainly with Greek medical publisher Parisianos and later for Lectio translations. He has created medical software for the management of Psychiatric patients in cooperation with Blackbox tech company. Since 2009 he has participated in the multidisciplinary research team under Dr. Kontis Dimitrios studying the gnostic functions in patients with schizophrenia, he has received together with the same team a grant from the Latsis Foundation to study the clinical, biochemical and genetic cofounders in gnostic deficits in patients with schizophrenia. He is member of the scientific council of the Psychiatric Hospital of Attica, and currently also attends in the newly founded outpatient department of "Study of gnostic functions in psychosis". He has received training in CBT at the University Re-

search Institute of Mental Health in Athens, and in Systemic-Family therapy at the Family Therapy Unit of the Psychiatric Hospital of Attica.

He participated in more than 10 posters and oral presentations in national and international meetings and in 2 published papers in international magazines. He has also contributed to a book currently under publication entitled "Soldatos K. Dikaios D., Clinical Psychopharmacology: Current themes" by betamedarts medical publications.

He is interested especially in subthreshold mood disorders, schizophrenia and gnostic functions, modern technologies and the use of the latter to improve psychiatric medical care.



Kondratenko, Anna V.

Professor of Musical Academy
and Concertmaster of State
Symphonic Orchestra, FYROM

Anna Kondratenko was born on 09.09.1981, graduated from the Higher School of Music in Cologne, Germany. During the studies, she was awarded in numerous competitions throughout the world as a laureate. She has performed as the soloist with many symphonic orchestras and has taken part in master courses and festivals. Currently she is professor of Musical Academy and concertmaster of State symphonic orchestra. Author of 8 publications. Area of scientific interests: music psychology and pedagogy, musical abilities development.



Kontaxakis, Vasileios

Professor of Clinical and Social
Psychiatry, Athens University,
2nd Psychiatric Department,
"Attikon" General Hospital,
Athens, Greece

Dr. Vassilis Kontaxakis is Professor of Clinical and Social Psychiatry in the Athens University, 2nd Psychiatric Department, "Attikon" General Hospital, Athens, Greece. He is Editor-in-Chief of the Journal "Psychiatriki"-the official journal of the Hellenic Psychiatric Association (HPA)-and Chair of the Section on Preventive Psychiatry of the World Psychiatric Association (WPA). He is, also, Chairman of the Athens Division and the Preventive Psychiatry Section of the HPA. He has made presentations on various aspects of Psychiatry in both national and international congresses (social psychiatry, deinstitutionalization, clinical psychopharmacology, psychopathology, suicide behaviour etc). He has around 250 full papers in national, international journals as well as chapters in books. He has been editor of two international (English) books and eleven Greek books. He has received awards for papers presented in three national and in two international congresses.



Kontis, Dimitrios
Consultant Clinical Psychiatrist,
1st Psychiatric Department,
Psychiatric Hospital of Attica,
Athens, Greece

Dr Kontis is currently working as a consultant clinical psychiatrist at the 1st Psychiatric Department of the Psychiatric Hospital of Attica. He is the founder and director of the Unit for the Study of Cognition in Psychosis at the same hospital. After he studied medicine at the University of Athens Medical School (1990-1996), during 1998-2003 he was trained in adult psychiatry at the Psychiatric Hospital of Attica. He received his PhD degree in 2005. The subject of his PhD research was the investigation of serotonergic and dopaminergic mechanisms in animal models of obsessive-compulsive disorder and schizophrenia. It was conducted at the Laboratory of Experimental Psychology, Department of Psychiatry, Athens University Medical School. He is a visiting research fellow at the Department of Psychology, Institute of Psychiatry, King's College, London. During 2006-2007 and 2010-2011 he completed two research fellowships at the Institute of Psychiatry, under professors Robin Murray and Til Wykes, respectively. During these fellowships he was trained and participated in research in the areas of Neuroimaging in Psychiatry and Cognitive Remediation of Schizophrenia. He is co-author of 10 papers in peer-reviewed psychiatric journals, which have already received more than 100 citations. He has also contributed in more than 100 papers which have been presented in international and Greek conferences. He has given 20 talks as an invited speaker in Greek and international conferences. The John S. Latsis Public Benefit Foundation has supported his work on cognition in schizophrenia. His main research interests are cognition in schizophrenia, psychogeriatrics and mood disorders.



Koukopoulos, Athanasios
Director of the Centro Lucio Bini,
Rome, Italy

At present director of the Centro Lucio Bini, a center for the treatment and study of psychiatric conditions, particularly affective disorders, that he and other colleagues founded in 1970. In 1977, he founded the Centro Lucio Bini in Cagliari with Dr. Leonardo Tondo. From 1963 to 1998 he was the Head of the medical staff of the Clinica Belvedere Montello, a private psychiatric in-patient facility in Rome.

His main activity has always been the examination and treatment of psychiatric patients with a particular interest in Affective Disorders. In addition to his clinical activity, he has been performing clinical research on the course of Manic-Depressive Illness, the pattern of the manic-depressive cycle and the effects of the treatments upon it.

He is also conducting studies on manic-depressive temperament and its importance in the genesis of affective disorders and their course.

Related to the above issues have been the lines of research on the response to prophylactic lithium treatment and the increase of bipolarity and frequency of recurrences following antidepressant drug treatments. The temperament, the course

and the concomitant factors of rapid cyclicity have been an important part of his work for more than thirty years. For more than twenty years he has been working on agitated and mixed depression arguing that they are mixed states often induced by antidepressants and requiring a different treatment. His last work was on the "Primacy of Mania" hypothesis i.e manic and hypomanic states should be considered primary and depression would be the consequence of these excitatory processes. The prevention and treatment of the excitatory phases should be considered the focus of prophylaxis.

In May 2009 he received in Lisbon the International Review of Bipolar Disorders life time achievement Award.



Kouvelas, Dimitrios
Professor of Pharmacology,
Aristotle University of
Thessaloniki, Greece

Professor Dimitris Kouvelas obtained his degree in pharmacology in 1985 and in medicine in 1997 and is specialized in General Practice. He received his PhD in 1989 after studying the opiate receptors in the neuromuscular junction. He was trained in neuropsychopharmacology in the Institut fuer Pharmakologie und Toxikologie of Innsbruck, Austria (1995-96, 1998). He is visiting professor at the Universities of Kragujevac (Serbia) and Leipzig (Germany). His research interests cover neurotransmitters, behavior (sexuality, learning, perception). He is author of co-author of several books, book chapters and articles on the area of pharmacology, toxicology, General Practice and socio-philosophical issues.



Lazareva, Olga Yu.
Senior Researcher in biofeedback
and neurofeedback, Laboratory
of biofeedback computer
systems of the Institute of
Molecular Biology and Biophysics
of Russian Academy of Sciences,
Novosibirsk, Russia

Olga Yu. Lazareva was born August 25th 1962, received her bachelor degree at Novosibirsk State University, Economical Cybernetics Department, Postgraduate study, Diploma in Social Psychology October 2008 - Current time - Senior Researcher of the Laboratory of biofeedback computer systems.the Institute of Molecular Biology and Biophysics of Russian Academy of Sciences, Novosibirsk, Russia. Her research topics: (1) Assessment and training of stress resistance and optimal performance abilities using game biofeedback technology.(2) Theory and methodology of neurofeedback (alpha and beta stimulating training). The use of neurofeedback training in treatment and rehabilitation of motor disorders.



Lykouras, Lefteris

Professor of Psychiatry, Director of the 2nd Department of Psychiatry, Attikon Hospital, School of Medicine, Athens University, Greece

Professor Lykouras was born in Piraeus Greece, graduated from the Athens University School of Medicine in 1969 and completed his residency in Neurology and Psychiatry in 1975. He completed his PhD in 1981 and a post-doctorate appointment in 1988. He speaks Greek English and French. He received a Doctoral dissertation scholarship (1974-1975) and a Post-doctoral research scholarship (1978-1981). He was appointed Lecturer in Psychiatry, in 1982, Senior Lecturer in Psychiatry, in 1988, Reader in Psychiatry, in 1996 and Profesor in Psychiatry, School of Medicine Athens University in 2004. He is member of a significant number of national and international scientific societies and participated in the organization of congresses and was invited speaker chairman of session or participant in more than 150 scientific events. He acts are regular reviewer in international journals and is active in the research in Clinical Psychiatry, Biological Psychiatry and Psychopharmacology General Hospital Psychiatry, and Psychiatric Education. He has authored or co-authores more than 500 journal articles and abstracts, received more than 1.000 citations and 10 books. **He has received a number of national and international awards included the "Papanikolaou" award for the best research paper in 2011.**



Magiria, Stamatia

Psychiatrist, Phd student, School of Medicine, Aristotle University of Thessaloniki, Greece

Dr Stamatia Magiria received her medical degree at Aristotle University of Thessaloniki, Greece in 2000. She performed her residency in psychiatry and received her license in 2009. From then she is working as a psychiatrist in her private practice. She is about to complete her PhD at Aristotle University of Thessaloniki. Her areas of clinical and research interest is psychopharmacology, biological psychiatry, mood disorders and trans-cultural psychiatry. She has co-authored more than 30 papers delivered to Greek and international congresses and 11 of them are published in International Journals such as Schizophrenia Research, Annals of General Psychiatry, Psychiatry Research, Cognitive and Behavioral Neurology among others, with 37 citations and h=3.

**Maglaveras, Nikolaos**

Professor and Director of the Lab
of Medical Informatics, Aristotle
University of Thessaloniki,
Greece

Nicos Maglaveras (S'80–M'87–SM'06) received the diploma in electrical engineering from the Aristotle University of Thessaloniki (A.U.Th.), Greece, in 1982, and the M.Sc. and Ph.D. degrees in electrical engineering with an emphasis in biomedical engineering from Northwestern University, Evanston, IL, in 1985 and 1988, respectively. He is currently a Professor with the Lab of Medical Informatics, A.U.Th. His current research interests include nonlinear biological systems simulation, cardiac electrophysiology, biomedical informatics-ehealth, biosignal analysis, medical imaging, and neural networks. He has published more than 200 papers in peer reviewed international journals, books and conference proceedings. He has developed graduate and undergraduate courses in the areas of biomedical informatics, biomedical signal processing, and biological systems simulation. He has served as a Reviewer in CEC AIM technical reviews and as reviewer, associate editor and editorial board member in a number of international journals, and participated as Coordinator or Core Partner in over 28 national and EU-funded competitive research projects. Since 2008 he is serving as president of the EAMBES. Dr. Maglaveras has been a member of the IEEE, AMIA, the Greek Technical Chamber, the New York Academy of Sciences, the CEN/TC251, and Eta Kappa Nu.

**Margaritis, Dimitrios**

Centre for Research and
Technology Hellas (CERTH)
Hellenic Institute of Transport
(HIT), Greece

BSc in Automotive Eng, MSc in Environment Pollution, PhD candidate in Road Traffic Air Pollution, is a Research Associate primarily in the area of Traffic Safety and Transport Greening. From 1999-2006, he worked for the Crash Safety department of TNO Automotive in The Netherlands. Since 2006, he works for CERTH/HIT. He was/is involved in more than 25 national and EU research projects. He joined networks such as EEVC WG21 and APSN and still joins ETSC, CARE, the European Environment Agency (EEA) and he is the national representative of ITF/OECD Working Group on Motorcyclists Safety.



Möller, Hans-Jürgen

Professor of Psychiatry and
Chairman of the Psychiatric
Department, Ludwig-Maximilians
University, Munich, Germany

Hans-Jürgen Möller has been working in the field of psychiatry for 30 years. After obtaining his Doctor of Medical Science in 1972 from the Universities of Göttingen and Hamburg, Germany, he then specialised in psychiatry and postgraduate training at the Max Planck Institute of Psychiatry in Munich. Professor Möller completed a postdoctoral thesis (habilitation) in psychiatry in 1979. From 1980 to 1988 he was professor of psychiatry at Munich Technical University, and from 1988 to 1994 full professor of psychiatry and chairman of the Psychiatric Department at the University Bonn, Bonn, Germany. He is currently full professor of psychiatry and chairman of the Psychiatric Department at the Ludwig-Maximilians-University, Munich. Professor Möller's main scientific contributions include clinical and neurobiological research into psychiatry, schizophrenia and depression and clinical psychopharmacology. He has been a member of the boards (executive committees) of several national and international psychiatric societies. Currently, he is president of the European Psychiatric Association (EPA). He serves as chairman of the Section on Pharmacopsychiatry of the World Psychiatric Association (WPA). For two years he has been a member of the executive committee of the Collegium Internationale Neuro-Psychopharmacologicum (CINP), where he is now president-elect. From 1997 to 2001 he was president of the World Federation of Societies of Biological Psychiatry (WFSBP), where he is now honorary president.

In addition to authoring and co-authoring over 1000 international publications and several books, he is also chief editor of *The World Journal of Biological Psychiatry*, main editor of *European Archives of Psychiatry and Clinical Neuroscience*, and editor of two psychiatric journals, *Nervenarzt* and *Psychopharmakotherapie*. He holds positions on the editorial boards of numerous national and international psychiatric journals.

In 2008 Professor Möller was awarded the prestigious Jean Delay Prize from the World Psychiatric Association.



Moussaoui, Driss

Professor of Psychiatry and
Psychological Medicine and
Chairman of the Ibn Rushd
University Psychiatric Centre in
Casablanca, Morocco

Dr. Driss Moussaoui is professor of Psychiatry and Psychological Medicine. In 1979, he founded and is still the chairman of the Ibn Rushd University Psychiatric Centre in Casablanca, Morocco, which is a WHO Collaborating Centre in Mental Health and Neurosciences since 1992.

Dr. Moussaoui is past-president of the Moroccan Society of Psychiatry and of the Arab Federation of Psychiatrists. He was also member of the executive committees of the World Association for Social Psychiatry and of the World Federation of Societies of Biological Psychiatry. He was honoured as "Knight of Throne Wissam" of the Kingdom of Morocco and he received the Prize of the President of Tunisia in Medicine.

Dr. Moussaoui founded or co-founded a number of associations in the fields of Psychiatry and Mental Health in Morocco,



in the Maghrebian countries, and on the international scene. He published more than 100 articles in international journals and chapters of books. Dr. Moussaoui is member of the editorial board of a number of international journals. He also wrote or edited 10 books.

Dr. Moussaoui worked closely with the World Psychiatric Association (WPA) since 1981. He participated in 1990 to the WPA Visiting Team to USSR, investigating possible political abuse of psychiatry. He was WPA Regional Representative for North Africa and the Middle East from 1993 to 1996 and Secretary for Meetings from 1996 to 2002. He was chairman of the WPA Section on Education in Psychiatry. In this respect, he contributed to the development of many WPA educational programs (Core curriculum in psychiatry for undergraduates, Core curriculum for post-graduates, WPA bulletin on depression, Teaching and learning about schizophrenia, Fighting schizophrenia and its stigma, Depressive disorders).

Dr. Moussaoui initiated and implemented a number of WPA programmes: the Programme for Libraries in Developing Countries, the series "Anthologies of World Psychiatry" of which he is the director (so far from French, Spanish, and Italian and German into English; Greek anthology is in preparation). He also initiated the WPA Jean Delay Prize (40,000 €), the highest of its kind in psychiatry, which awards a person or an institution, who helped best bridging the gap between the biological and the psycho-social aspects of psychiatry.

Dr. Moussaoui was elected member of the French Academy of Medicine in 2007.

He is also currently President-Elect of the World Association for Social Psychiatry (WASP) in 2007.

Dr. Driss Moussaoui was born in 1949 and is father of 3 children.



Napalkov, Dmitry

M.V. Lomonosov Moscow State
University, Faculty of Biology,
Moscow, Russia

Dmitry A. Napalkov was born 24.04.1968. Graduated from Biological Faculty of Lomonosov Moscow State University in 1992. Now associate professor of the department of Higher Nervous Activity of MSU, PhD. Scientific interests are in the fields of psychophysiology of optimal performance and biofeedback in sports and mechanisms underlying saccadic eye movements. Author of more than 50 publications.



Nasios, Grigorios

Assistant Professor of Neurology, T.E.I of Epirus, School of Health & Welfare, Department of Speech and Language Therapy, Ioannina, Greece

Dr. Grigorios Nasios is Assistant Professor at the Department of Speech and Language Therapy, Technological Educational Institute of Epirus. He was from 1996-1997: Visiting Scientist at the Department of Neurology, Medical School, Freiburg University, Germany. From 1998-1999: Research Fellow at the Department of Neurology, Freiburg University, Germany. From 1999-2000: Research Fellow at the Department of Neurology, Section of Neurophysiology (Prof. W. Becker), Medical School, Ulm University, Germany. From 1996-2000: Collaborator in Electronystagmography Laboratory at the Department of Neurology, Ioannina, Greece, and from 2004-2007: Scientific collaborator at the Department of Speech and Language Therapy, Technological Educational Institute of Epirus

His research interests are focused on Neurophysiology of orientation and eye movements, integration of sensory inputs in CNS and Aphasiology.

He has 8 peer reviewed publications, over 30 presentations (poster and oral) to world and national congresses, author in two book chapters, and also editor of three books in Greek language.

Dr. Nasios is Member of Professional-scientific organizations: a) Greek Neurological Society, b) Greek Neurophysiological Society and c) European federation of Neurological Societies.

Finally he is supervisor of one doctoral student (in collaboration with Ioannina's Medical School).



Nimatoudis, Ioannis

Professor of Psychiatry, Aristotle University of Thessaloniki, Greece

Ioannis Nimatoudis is Professor of Psychiatry at the Aristotle University of Thessaloniki, Greece He received his Medical degree from the Aristotle University Thessaloniki in 1979 and completed his residency in Psychiatry - Neurology in 1984. Since 1990 he is active member in Psychiatric Reform and rehabilitation in Greece, and specially devoted in the "Leros Programme" of the Regulation 815/84 of E.U. During 1991- 2003 he served as scientific coordinator of rehabilitation units in Thessaloniki under the auspice of the N.G.O. "Society of Mental Health and Social Rehabilitation" in collaboration with the Ministry of Health and the E.U.

He has supervised 9 PhD that completed successfully in four of them been part of the three member committee. He is currently the main supervisor in 4 PhD that are in process. He is responsible for organising elective courses in Neuropsychiatry, he participates in education programmes of other Medical Universities in Greece and is responsible for organizing educational workshops in international conferences. His main research interests rely on neuropsychology, psychopharmacology, psychopathology and evaluation of psychiatric services. He served as member of the organizing committee of 13 international and 13 national conferences. He is an active member of 11 national and international scientific societies. He has participated in 83

Greek and International scientific conferences and in 58 round tables, lectures, and seminars as invited speaker. He is author or coauthor of more than 250 papers presented in conferences or published in national and international scientific journals.



Nolen, Willem

Professor of Psychiatry, especially Affective Disorders, Head of Department for Affective Disorders, University Medical Center Groningen, Groningen, The Netherlands

Willem Nolen (1948) studied medicine at the University of Leiden (1966-1973) and undertook his psychiatry training at the Bloemendaal Psychiatric Centre (now Parnassia) in The Hague (1974-1978).

After his training he worked as psychiatrist in The Hague (1978-1993) and in Utrecht (1993-2004) where he was Professor of Psychiatry and principle investigator of the Utrecht site of the international Stanley Foundation Bipolar Network (1996-2003).

In Groningen he is head of the Department for Affective Disorders and scientific coordinator for the clinical studies in affective disorders. From 2004-2011 he was principle investigator of the Groningen site of the Netherlands Study on Depression and Anxiety (NESDA), a Dutch multi-center 8 years follow-up study in respondents ($n=2,981$) with depressive and/or anxiety disorders and since 2008 he is principle investigator for the bipolar cohort in MOODINFLAME, a collaborative European study on inflammation and autoimmune disturbances in mood disorders.

His major research interest is mood disorders, both bipolar disorder and major depression, in which he is doing research on epidemiology, etiology, long-term course and treatment. A main part of his research has focused on the different pharmacological treatment options in bipolar and unipolar mood disorders and their place in guidelines and algorithms.

He has published over 400 papers, many of them in international journals or as chapters in international books.

He has been member of the editorial board of the Dutch Journal of Medicine (NTvG) and of the Dutch Journal of Psychiatry (TvP), is currently member of the editorial board of Bipolar Disorders, and serves as editorial consultant for several international journals.

In 2007 he received the annual award for scientific research of the Dutch Psychiatric Association (NVvP).



Palmer, Clare
Academy of Nutritional
Medicine, UK

Clare Palmer is a patient advocate with several years of experience in supporting patients who are suffering from fibromyalgia and/or myalgic encephalomyelitis (more commonly known as chronic fatigue syndrome). She has an active interest in the advantages and disadvantages of the various diagnostic criteria used for these diseases, in the various treatment options available, and in current on-going research. She has facilitated several international meetings at which researchers have described cutting-edge research into CFS/ME and FMS. She has excellent relations with leading clinical and scientific researchers in these fields; these associations serve her well in her key role as part of the steering committee of the Academy of Nutritional Medicine.



Panou, Mary
Senior Researcher of the Hellenic
Institute of Transport, Greece

Dr. Mary Panou was born in Athens, Greece. She is an Electronics and Computer Engineer (honours degree) of the University of Liverpool, UK, since 1997, with MSc on Advanced Control (in 1998) from the University of Manchester Institute of Science and Technology, UK (UMIST) and PhD from the Aristotle University of Thessaloniki on Personalised ADAS warnings for drivers and infomobility services for travellers. She is currently holding a position as a Researcher Grade C (Associate Researcher) of the Hellenic Institute of Transport.

Main Fields of expertise: Telematics Applications for Transport and their personalisation, infomobility services and content personalization, driver behaviour modeling, ADAS warning algorithms, transportation technologies of elderly and persons with special needs, ambient intelligence framework services. Participation in more than 15 European and national research projects. Coordinator/technical manager of 2 6th & 7th FP STREPs (TRAIN-ALL, SAVE ME), sub-project leader in two (6th & 7th FP) Integrated Projects.

She holds more than 59 publications in international conferences, and 18 in scientific journals and books. She has also edited several deliverables of research projects.



Papageorgiou, George
Psychiatrist, NHS director,
Department of Psychiatry,
Evangelismos Hospital, Athens,
Greece

Dr. Papageorgiou was born in Athens, Greece in 1954, received his degree in Medicine from Athens University in 1979 and his MD Thesis from the Dpt of Pathology, Athens University, Summa Cum Laude in 1984 (title: Astrocytes of The Cerebral Hemispheres: Anatomoclinical Correlations).

He served as staff psychiatrist in the Adolescent Unit, Athens General Hospital During (1985-6), Consultant Psychiatrist, Sismanoglion Hospital, Athens (1986-7), Consultant Psychiatrist, Evangelismos Hospital, Athens(1987), Director, Leros Psychiatric Hospital, Leros , Dodecanese Islands (1987-9), Postdoctoral Fellow, UMDS Guy's Hospital, London (1990-1), Locum Lecturer, Brook General Hospital, Woolwich, London (1991), Consultant, Outpatient Department and Consultation-liason Department,

Evangelismos General Hospital, Dpt of Psychiatry (1991-today), Deputy Director (2006-9), Chairman, Outpatient Department, Evangelismos Hospital (2008-today). In 2009 he was promoted to Director, National Health Service.

He is author or co-author of over 50 papers in published in Greek and International Journals, 50 posters in International and Greek Congresses, chapters in Textbooks of Consultation-Liaison Psychiatry and General Hospital Psychiatry. He participated in many psychopharmacology trials.

He is founding member of the Greek Society of Clinical Psychopharmacology, with extensive educational work in Greek Psychiatrists all over Greece. He is engaged in many Psychopharmacology Protocols, Scientific Writing, Teaching, Administrative and Clinical Work.



Papageorgiou, Socratis

Assistant Professor of Neurology,
Department of Neurology, Uni-
versity of Athens Medical School,
Athens, Greece

Sokratis G. Papageorgiou is a neurologist and Assistant Professor of Neurology at the Department of Neurology, University of Athens Medical School. He studied medicine at the Medical School of the University of Athens. From 1988 to 1992, he completed his residency training in neurology at the Pitie-Salpetriere university hospital in Paris and was bousier of the College de Medicine des Hopitaux de Paris. He obtained a MSc degree in Neuropsychology from the University of Claude-Bernard at Lyon at 1993. From 1992-94 he worked as a fellow in clinical research at the Commissariat a l'energie Atomique at Orsay, doing imaging studies with PET in patient with epilepsy and dementia. On January 1995 he presented his PhD thesis at the University of Athens, on the memory deficits of epileptic patients with mesio-temporal sclerosis. He worked from 1996 to 2003 in the Neurology department of Athens General Hospital, where while working in general neurology, he set up a Memory Outpatient Clinic. In 2003 he became a Lecturer in Neurology at the University of Athens and set up the in-patient Cognitive Neurology-Movement Disorders Unit at Eginition Hospital. Since 2009 he is Assistant Professor of Neurology and in charge of the Cognitive Neurology-Extrapyramidal Disorders section (in and out-patient). His research interests include the cognitive and behavioural aspects of the various dementing diseases as well as the characterization of atypical, early-onset and rapidly progresssive cases. He is a co-founder and member of the executive committee of the post-graduate training programme in Clinical Neuropsychology, organized jointly by the University of Athens Medical School and the University of Texas Health Sciences Center. He is a member of the Greek Neurological Society, the European Federation of Neurological Societies, the European Neurological Society and the American Academy of Neurology. In June 2010 he has been elected Executive Secretary of the Athens Medical Society.



Papakonstantinou, Anastasios K.
Resident in Psychiatry, MSc in
Clinical Psychopharmacology,
MSc in Sexual Medicine, MSc in
Clinical Sexology, 1st Psychiatric
Department, Psychiatric Hospital
of Attica, Greece

Dr Papakonstantinou is resident in Psychiatry at the Psychiatric Hospital of Attica in the 1st Psychiatric Department and he completes his training on January 2012.

He received his MD from the Medical School of the state University of Brescia in Italy. He attended the Clinical Psychology department in the University of Brescia. He received an MSc in Clinical Sexology from the University of Pisa and an MSc in Sexual Medicine from the University of Bari. He received his third MSc in Clinical Psychopharmacology from the Psychiatric department of the VITA-SALUTE University at the San Raffaele Hospital in Milan.

He has developed four theses: "A study of seasonality in a population affected by mood disorders in a state of normothymia", "Psychotropic drugs and sexual function", "Sexuality, sexual behavior and sexual function in stress conditions", "Psychological implications in oral pathology patients". He has published as author and co-author 3 international publications, 15 international oral and poster presentations, 15 national oral and poster presentations. He has participated in numerous important symposiums as lecturer. He has organized symposiums and has taken place in more than 40 international and national meetings. He contributed as a writer to a book currently under publication entitled "Soldatos K. Dikaios D., Clinical Psychopharmacology: Current themes" by betamedarts medical publications. He is interested especially in Sexual dysfunctions, Sexual education, Psychopharmacology, Mood disorders. He has received training in CBT at the University Research Institute of Mental Health in Athens. He is designated by the scientific council of the Psychiatric Hospital of Attica as responsible of trainee's educational scientific program. He is an active member of a number of national and international professional organizations. He is treasurer of the Hellenic Psychiatric Trainees Association of the Hellenic Psychiatric Association. He is collaborating with well respected Psychiatrists, participating in important ongoing studies concerning "Newer treatments for drug-induced sexual dysfunction in patients receiving antipsychotics". He is also in collaboration with the 2nd Psychiatry Department of Athens University in "Psychological evaluation of persons committed suicide".

**Perrin, Raymond**

Honorary Senior Lecturer, School of Public Health and Clinical Sciences, University of Central Lancashire, UK

Ray Perrin initially qualified as an osteopath in 1984. In 2005 he gained his Ph.D. at The University of Salford, UK, for his work on CFS/ME.

He is research director of The F.O.R.M.E. Trust and an Honorary Senior Lecturer at the School of Public Health and Clinical Sciences, University of Central Lancashire, Preston, UK. His honorary roles also include Vice Patron of The British School Of Osteopathy and Ambassador for the International Association of CFS/ME, whilst still running clinics in Manchester and London specialising in CFS/ME. For the past twenty years he has lectured internationally and his work is published in international medical journals. The book *The Perrin Technique: How to beat CFS/ME* was published by Hammersmith Press, London in 2007.

**Perugi, Giulio**

Professor of Clinical Psychiatry and Psychopharmacotherapy, University of Pisa, Italy

Dr Giulio Perugi is professor of Clinical Psychiatry and Psychopharmacotherapy at the University of Pisa, Italy. He works as director of the Out-patient and Day-Hospital units. Dr Perugi is the director of the Institute of Behavioural Sciences "G.Delisio" in Pisa. He is involved in the International Research Project on Mood Disorders in collaboration with the University of South California at San Diego. He has developed and directed many research projects on Mixed States, Mania, Anxious-Bipolar Comorbidity and Atypical Depression-Bipolar II-Borderline connection. In the field of anxiety disorders he has directed several studies on clinical features and long-term naturalistic treatment of Panic Disorder-Agoraphobia, Obsessive-Compulsive Disorder and Social Phobia. He is part of the editorial board of the *Journal of Affective Disorder* and other 5 International Journals. He is the author of 3 books and over 400 original articles on psychopathology, clinical psychopharmacology, and pharmacotherapy of mood and anxiety disorders.

**Polyzoidis, Konstantinos**

Professor and Chairman, 1st Department of Neurosurgery, Aristotle University of Thessaloniki, AHEPA Hospital, Thessaloniki, Greece

Dr Konstantinos Polyzoidis is Professor and Chairman, 1st Department of Neurosurgery, Aristotle University of Thessaloniki, AHEPA Hospital. He graduated with honors from the Medical School of the Aristotle University of Thessaloniki in 1973. He received the First National Prize from the Greek Mathematical Society in 1967. He completed his Neurosurgical training at the Medical School of the University of Thessaloniki, the University of Saskatchewan in Saskatoon, Canada, and Emory University, Atlanta, USA. He served as Cerebrovascular Research Fellow at the Emory University for one year. He completed his Ph.D at the Aristotle University of Thessaloniki and was certified by the American Board of Neurological Surgery (1987). He is member of the AANS, CNS, and EANS (neurosurgical societies) and 9 greek scientific societies. In 1984 he organized and started the function of the Department of Neurosurgery of the George Papanikolaou State Hospital of Thessaloniki, within the National Health System. During 1999 - 2006 he served as Associate Pro-

fessor and Chairman of the Department of Neurosurgery of the University of Ioannina. In 2005 he became Professor of Neurosurgery at the same University. From 2006 - today he serves as Professor of Neurosurgery at the Aristotle University of Thessaloniki, 1st Department of Neurosurgery, AHEPA Hospital and since November 2008 is Chairman of the same Department. He served as Visiting Professor of the "Neurochirurgische Klinik der Universitaet Erlangen-Nurberg" (2003). He served as Delegate of Greece at the Training Committee of the European Association of Neurosurgical Societies. He is currently the Director of the Department of Neurosciences, Representative of Greece in the World Federation of Neurosurgical Society (WFNS) and Member of the Administrative Council of the Papageorgiou Hospital Thessaloniki. His research interests include the Molecular biology of brain tumors. He was the principal investigator of seven research projects, in the University of Thessaloniki which are supported by corresponding research grants. These projects are dealing with the brain tumors, the magnetic properties of the spine and the process of medical education. He is author or co-author of 58 international publications.



Popovic, Dina
Bipolar Disorders Program of
Hospital Clinic, University of
Barcelona, Spain

Dr. Dina Popovic has received her degree in Medicine, cum laude, from the University of Bologna (Italy) and completed residency in Psychiatry at the University of Pisa. Alongside with active clinical practice Dr. Dina Popovic performs clinical research at Bipolar Disorders Program of Hospital Clinic, University of Barcelona, Spain, headed by Dr. Eduard Vieta, and is a PhD student at the Department of Psychiatry, Neurobiology, Pharmacology and Biotechnology of University of Pisa, Italy under the guidance of Dr. Giulio Perugi. Her scientific interests and publications primarily include Bipolar disorder, cyclothymia and dual diagnosis, with a special focus on clinical, pharmacological, genetic and neurophysiological aspects of mood disorders.



Printza, Athanasia
Assistant Professor, 2nd
Department of Otolaryngology,
Medical School, Aristotle
University of Thessaloniki, Greece

Otolaryngologist, Assistant Professor, 2nd Department of Otolaryngology, Medical School, Aristotle University of Thessaloniki, Papageorgiou Hospital. Obtained from the Medical School in the Aristotle University, Thessaloniki, Greece: Medical Degree, 1991, MSc in Medical Research Technology, 2003, PhD on the stroboscopic examination of dysphonia, 2004. MSc in dysphonia from the University of Newcastle, England, 2006. Trained as Otolaryngologist in Greece and England. Qualified as Otolaryngologist in 2000. Post-qualification training in Germany (2007) Worked at Papageorgiou Hospital, Thessaloniki as Consultant, since 2005 as Lecturer and since 2010 as Assistant Professor at the 2nd Otolaryngology Dept at the Aristotle University. Teaching: Otolaryngology to Medical and Dental school students, Medical Emergencies-ENT and Oral Medicine

to medical students, Information technology in medical research and teaching and Phoniatrics (MSc Program of Medical school), Voice analysis (MSc Program School of Engineering / Medical school). Research interests: voice disorders, swallowing disorders, educational methodology.



Puri, Basant K.

Professor of Psychiatry, Imperial
College London, UK

Prof. Puri received his primary and postgraduate degrees in medicine from the University of Cambridge, and carried out post-doctoral work in molecular genetics at the University of Cambridge and in imaging at the Royal Postgraduate Medical School at Hammersmith Hospital, London. He also has post-graduate degrees in mathematics and is a fellow of the Royal College of Psychiatrists. He is actively involved in research into myalgic encephalomyelitis.



Rihmer, Zoltan

Professor of Psychiatry,
Department of Psychiatry and
Psychotherapy and Scientific
Director, Department of Clinical
and Theoretical Mental Health,
Semmelweis University, Faculty
of Medicine, Budapest, Hungary

Prof. Dr. Zoltán Rihmer, MD, PhD, DSc, received his medical diploma at the University of Pécs, Hungary in 1971. Till 2007 he worked at the National Institute for Psychiatry and Neurology, Budapest, Hungary as the Director and Head of the In- and Outpatient Department of Psychiatry No. III. of that institute. From 1995 he is a professor of psychiatry at the Department of Psychiatry and Psychotherapy, Semmelweis Medical University, Budapest, where he works currently at the Department of Clinical and Theoretical Mental Health.

Dr. Rihmer has three special examinations: psychiatry (1976), neurology (1979) and clinical pharmacology (1990). He received his PhD at the Hungarian Academy of Sciences in 1993, and his DSc in 2004. As a full-time clinician, his special interest is the clinical and biological aspects of mood and anxiety disorders, with particular regards to prediction of treatment response and prevention of suicide and the interface between mood and cardiovascular disorders. He has published more than 330 scientific articles/book chapters (more than 170 in English) and four books. He received the Brickell Suicide Research Award of the Department of Child and Adolescent Psychiatry, Columbia University, New York, the Life Work Award of the Hungarian Psychiatric Association in 2005, the Arateaus Award, the "Dr. Szabó György Award" of the Hemingway Foundation and the Lifetime Achievement Award of the European Bipolar Forum (2011).

Prof. Rihmer is a member of several Hungarian and international scientific boards and associations, including the editorial board of Journal of Affective Disorders, International Journal of Psychiatry in Clinical Practice, World Journal of Biological Psychiatry and Clinical Neuropsychiatry, Suicidology Online,

Depression Research and Treatment, Psychiatria Danubia, Psychiatria Hungarica and Neuropsychopharmacologia Hungarica. He is also a member of the Executive Committee of the European College of Neuropsychopharmacology.



Ruiz de Azúa Garcia, Sonia
Psychiatric Department of
Santiago Apostol Hospital
Research Unit, Spain

Sonia Ruiz de Azúa is young scientific, who did the PhD of psychology in 2007. She is working in the psychiatrist department of Santiago Apostol Hospital, in the research unit which is one of the CIBERSAM groups (Centre of Biomedical Research Network on Mental Health). The research department is enrolled in some projects about severe mental health, specifically about first episode psychosis, schizophrenia and bipolar disorder.

She is working in the University of the Basque Country in the Basic Psychological Processes and Development as an assistant professor.

She is enrolled in some project about the neurotrophic factors in the first psychotic episode and their relationship with the cognition, and actually she is working in some publications about this topic. Nowadays, the research group is working in a new project in which analyze the changes of the psychological treatment in the neurotrophic factors of the patients with psychosis.



Salanti, Georgia
Assistant Professor in
Epidemiology, University of
Ioannina School of Medicine,
Ioannina, Greece

Dr Georgia Salanti is assistant professor in Epidemiology at the University of Ioannina School of Medicine in Greece.

Following her degree in Mathematics, she did a postgraduate diploma at the University of Brussels in Epidemiology and has a PhD in Applied Statistics from the University of Munich. Between 2003 and 2006 she was research associate in Biostatistics Unit in Cambridge Medical Research Council.

She is convenor of the Cochrane Statistical Methods Group, an Editor of the Cochrane Developmental, Psychosocial and Learning Problems Group, and associated editor of the Research Synthesis Methods journal.

Her research interests are on statistical methodology for meta-analysis and the investigation of the impact of bias in evidence from clinical trials. She has published 45 research articles which have attracted more than a thousand of citations. Her recent research activity on network meta-analysis is funded by the European Research Council.

**Samolis, Stavros**

Psychiatrist NHS, Psychiatric
Department, General Hospital of
Thessaloniki "Ippokratio", Greece

Dr Samolis graduated from Medical school of the Aristotelian University of Thessaloniki . He then served in the Army including six months training in Pathology at the 424 Military Hospital of Thessaloniki. After that he spent 1 year in Community service and 1 year training in Neurology.

He underwent his residency in Psychiatry at the 3rd University Psychiatric Clinic of AHEPA Hospital for 3,5 years. He has also 2,5 years of training in systemic family psychotherapy. After this he worked as specialist for three years at a private psychiatric clinic in North West Greece being the doctor –in- charge of a department of the clinic. He currently works as psychiatrist of the National Health System at the Psychiatric department of General Hospital of Thessaloniki "Ippokratio" performing outpatient unit and consultation- liaison services. He has participated as co-investigator in five phase III and IV pharmacological trials. He has participated in the authoring of several research works presented as announcements and published in journals.

He is member of the Hellenic Psychiatric Association and the International Society of Quality in Clinical Practice. He is fluent in English.

**Siamouli, Melina**

Research Associate, 3rd
Department of Psychiatry,
Aristotle University of
Thessaloniki, Greece

Melina Siamouli, MD, is a research associate in the 3rd Department of Psychiatry at Aristotle University of Thessaloniki, Greece.

Dr. Siamouli received her medical degree at Aristotle University of Thessaloniki, Greece in 1998. She performed her residency in psychiatry and received her license in 2006. After that she worked as a psychiatrist in a private mental clinic (2008-2011) and in her private practice (2006-today). Dr Siamouli is a research associate in the 3rd Department of Psychiatry of the Aristotle University of Thessaloniki (2006-2008 and 2010-today). Her areas of clinical and research interest are biological psychiatry, psychopharmacology, mood disorders and trans-cultural psychiatry. She has co-authored a significant number of papers delivered to Greek and international congresses, of whom 23 were published in international journal such as the *Journal of Affective Disorders*, *Schizophrenia Research*, *Psychiatry Research*, *Annals of General Hospital Psychiatry*, and the *British Journal of Psychiatry*, among others, with 142 citations and h=7. Dr Siamouli served as an invited reviewer for several peer-reviewed international journals and was an invited author for the *Current Opinion in Psychiatry*.



Sotiriou, Michael

Director, Psychiatric Adult Unit,
Kavala General Hospital, NHS
Kavala, Greece

Michael J. Sotiriou, is Director of the Psychiatric Adult Unit at Kavala General Hospital in Kavala, East Macedonia, Greece. He earned his medical degree and completed his residency in psychiatry at Aristotelian University, in Thessaloniki, Greece. Then, having awarded a scholarship from Greek State Foundation (IKY) he worked in Great Britain (Department of Psychiatry, Guys Hospital, University of London). In Greece, he worked in Thessaloniki, Serres and Kavala (Psychiatric Units, Day Hospitals, Community Mental Health Centers).



Tafiadis, Dionysios

Teaching Associate, T.E.I
of Epirus, School of Health
& Welfare, Department of
Speech and Language Therapy
& University of Ioannina,
Department of Pre - School
Education, School of Medicine,
Department of Neural Sciences
and Sensory Organs, Ioannina,
Greece

Dionysios Tafiadis is M.Sc. Speech Language Therapist and he specializes in populations with neural based speech, language, voice, and communication disorders. He got his Hons B.Med. as speech language therapist in 2003. He run under scholarship his Master degree in Speech Therapy and Learning disabilities (2006-2008).

At this period he is under his Ph.D. (2012) in communication and language deficits in different type of demented populations, which financially is supported by National Strategic Reference Framework (N.S.R.F.) scholarship program of "Heraclitus II".

He is teaching associate in two departments [department of S.L.T. (6 years) and department of preschool education (3years)], while he runs his private practice in Ioannina. Furthermore he has 60 presentations in world and national congresses and two publications in Greek journals.

He is also reviewer in four international journals that oriented in the neural field. In 2010 also translated and edited in Greek his 1st book.

During his teaching career he created 4 student research teams and he is has under his supervision 3 more (supervising new researchers).

His current research interests are to create and standardize speech and language assessments for Greek populations but also to improve speech and language diagnosis in neuromotor speech and neurogenic communication disorders. His new research interests is to copy speech, language, and communication disorders with the use of neuroimaging methods.

**Toni, Cristina**

Institute of Behavioural Science
"Gianfranco De Lisio", Italy

Cristina Toni graduated at the Medical School of the University of Pisa Italy in 1986 and went on to specialize in Psychiatry, taking her second degree in 1990, and the PhD in clinic psychopharmacology in 1994. She is one of the founders of the Institute of Behavioural Science "Gianfranco De Lisio" where she coordinates the research and teaching programs. She teaches psychopathology and psychopharmacology at the School of Psychiatry organized by the Institute of Behavioral Science De Lisio. She cooperates at the international research program on mood disorders at the South California University of San Diego, developing numerous research projects on different aspects of mood disorders, from mixed states to mania, to atypical depression, and on anxiety disorders, in particular panic disorder, agoraphobia and social phobia. He published more than 150 national and international scientific papers on clinical psychopharmacology, psychiatric clinic, psychopathology and biological psychiatry. She is also author of numerous chapters of books on mood and anxiety disorders.

**Toropova, Alla**

Senior Researcher Institution of
Russian Academy of Education
"Psychological institute" and
Associate Professor on the
Moscow Social Pedagogy
University Department of
Methodology of Music Teaching,
Moscow, Russia

Alla V. Toropova was born at 14.06.1962, Ph.D., senior researcher of the Institution of Russian Academy of education "Psychological institute", associate professor on the Moscow Social Pedagogy University department of methodology of music teaching.

Specialization and area of scientific interests: music psychology and pedagogy, art-therapy and musical-pedagogic correction and rehabilitation of a person. Anthropological theories of culture, psychosemantics of arts, mythology, symbolic aspects and functions of consciousness, consciousness and unconsciousness in processes of becoming and development of a person.

More than her 60 works are published, including teaching aids and monographs such as *Music psychology and psychology of music education, Moscow, 2008, 2010; Homo-musicus in the mirror of musical-psychological and musical-pedagogic anthropology, Moscow, 2008.*



Tortorella, Alfonso

Assistant Professor, Department
of Psychiatry, Second University
of Naples, Italy

Alfonso Tortorella is Assistant Professor at the Department of Psychiatry of the Second University of Naples and Coordinator of the Affective Disorders Centre of the same Department. Moreover, he coordinates the clinical and research activities of the Eating Disorders Center of the Campania Region in the above Department. He is member of some national and international scientific societies, including the European Psychiatric Association. He has participated and participates in several research projects supported by CNR and MIUR, including the national multicenter studies on "Bulimia nervosa: clinical, biological and psychosocial aspects" (2001-2002) and "Clinical, biological and psychosocial characterization of Bipolar II disorder" (2002-2003), both of them supported by MIUR. He has published more than 80 papers in international and national scientific journals and some monographs.



Toulou, Katerina

Centre for Research and
Technology Hellas (CERTH)
Hellenic Institute of Transport
(HIT), Greece

Katerina Toulou is an experimental psychologist and holds a Masters degree in Research Methods in Psychology. Since 2008 she works at the Hellenic Institute of Transport (HIT). She has worked in the field of dementia, gaining experience with demented patients and other vulnerable and isolated population groups. Her main research interests lie in the areas of cognitive deterioration in elderly, psychosocial factors affecting mobility impaired individuals and the effects of alcohol and medicinal drugs in driving behaviour. She has participated in more than 15 European research projects and specializes in the design and development of methodological frameworks for experimental studies and field trials, data analysis and evaluation. She has over 25 publications in scientific journals and conferences.



Touloumis, Charalambos

Chief Director Psychiatrist,
5th Psychiatric Department,
Psychiatric Hospital of Attica,
Greece

Dr Touloumis was born in Chalkis of Evia, in Greece. He graduated from Medical School of Athens University and received his specialty in Psychiatry from Psychiatric Hospital of Athens and Evangelismos Hospital. Since 1987, he has been working as Psychiatrist in Psychiatric Hospital of Athens (nowadays in the position of Deputy Clinic Director in the 10th Psychiatric Department). He has published more than 50 scientific publications through greek and international biomedical magazines. He has made more than 70 scientific presentations in medical conferences. He is interested specifically in Clinical Psychiatry and Psychopharmacology.

**Treasaden, Ian H.**

Head of Forensic Neurosciences,
Lipid Neuroscience Group,
Imperial College, London, and
Clinical Director, Three Bridges
Medium Secure Unit for Mentally
Disordered Offenders,
West London Mental Health NHS
Trust, UK

Head of Forensic Neurosciences, Lipid Neuroscience Group and Honorary Senior Clinical Lecturer in Psychiatry at Imperial College London and Honorary Consultant in Imaging Department, Hammersmith Hospital, and, since 1984, he has been Consultant Forensic Psychiatrist at The Three Bridges Medium Secure Unit, West London Mental Health NHS Trust, where he has also been Clinical Director.

He qualified in medicine from the London Hospital Medical College, University of London, in 1975 where he was awarded the James Anderson Prize in Clinical Medicine, and trained in forensic psychiatry at the Maudsley & Bethlem Royal Hospitals in London.

Author of papers on forensic and general psychiatry, and co-author of the books *Textbook of Psychiatry*, 3rd edition, *Mental Health Law: A Practical Guide*, 2nd edition, *Emergencies in Psychiatry and Psychiatry: An Evidence-based Text*.

His current research interests include lipid and neuro-imaging abnormalities in psychiatric disorders.

**Treasure, Janet**

Director of the Eating Disorder
Unit and Professor of Psychiatry
at University College London, UK

Professor Janet Treasure is Director of the Eating Disorder Unit and Professor of Psychiatry at University College London. Professor Janet Treasure has more than 25 years experience in the treatment and study of eating disorders. She is currently director of the Eating Disorders Service, which is at the epicenter for clinical management of eating disorders and training. As well as this Professor Treasure is Chief Medical advisor for Beat and a fellow for the Academy of Eating Disorders. In 2007, Professor Treasure received an Eating Disorders National Award from national eating disorder charity Beat. During her illustrious career, she has edited seven academic texts on eating disorders and authored three self-help books, including *Getting Better Bite by Bite*, *Anorexia Nervosa* and *A Survival Guide for Families, Friends and Sufferers*. Professor Treasure has been active in a number of research projects and has over 150 peer reviewed papers in print. In 1984, she was awarded the Gaskell medal from the Royal College of Psychiatrists and has numerous other awards for her work. In 2004, she was awarded the Academy for Eating Disorders (AED) Leadership Award in Research. (This award honors an individual who has over substantial period of time developed through research new knowledge about eating disorders that is internationally respected and that has had a measurable impact on the field). As well as her considerable research into eating disorders, Professor Treasure has been highly involved in treatment trials for type 1 diabetes through cognitive behavioural therapy (CBT) and motivational interviewing. Professor Treasure has trained over 20 PhD students in research on eating disorders and is one of the most highly decorated academics in this branch of research. She is a true luminary in the study of eating disorders and we are truly privileged to have her speaking before us today.



Tsaluchidu, Sofia
University of Bologna, Italy

Dr. Sofia Tsaluchidu received her degrees from the University of Bologna IT (Alma Mater Studiorum Università di Bologna) based on her thesis “New Therapeutic Approaches to the Pathology of Parkinson’s Disease”, involving a detailed study of adenosine A2 antagonists, neuroprotective drugs and neuromelanin inhibitors.

She has a particular expertise in fatty acids and oxidative stress and her postgraduate work has included published studies in these areas.

In addition to her academic commitments, including research studies, acting as a journal peer reviewer and presenting papers at major international scientific conferences, Dr. Tsaluchidu is a keen poet who has won several major international prizes for her poetry in both Italian and Greek.

She is a researcher collaborator of Dimorfipa Department University of Bologna IT. She is also the scientific coordinator of the Academy of Nutritional Medicine UK and member of Brain and Heart International Group which includes Professor Cary Mullis, Nobel Laureate in Chemistry.



Tsapakis, Evangelia
Visiting Research Associate,
MRC SGDP Centre, Institute
of Psychiatry at King’s College,
London, UK

Dr Tsapakis studied pharmacology at King’s College London and medicine at St. George’s Hospital Medical School, University of London. Having earned the first prize in psychological medicine (the Arthur Crisp Prize), she went on to train in psychiatry at the Maudsley Hospital. She has worked under Ross Baldessarini’s mentorship at Harvard Medical School whilst on a traveling fellowship awarded by the Royal College of Psychiatrists. In 2007, she earned a Masters in Affective Neuroscience from the University of Maastricht. Two years later, she earned a PhD in pharmacogenetics (on the role of metabolic enzyme variants in response to treatment with psychotropic agents) and pharmacogenomics (on the differential gene expression induced by antidepressants in juveniles) from the University of London. Dr Tsapakis’ awards include a Young Scientist Award at the 11th Biennial Winter Workshop on Schizophrenia (2002), a Research Award at the 5th International Neuropsychiatry Congress (2004), a Young Investigator Award for the 20th International Congress in Schizophrenia Research (2005), and a Poster Prize at the 3rd International Congress on Brain and Behaviour (2007). Dr Tsapakis is a visiting research associate at the Institute of Psychiatry, King’s College London and at Harvard Medical School, Boston, MA. Since 2009, she directs a private mental health unit in Heraklion, Crete, Greece.

**Tsopelas, Christos**

NHS, Consultant in Adult General Psychiatry, Psychiatric Hospital of Attica, Greece

Dr Tsopelas is a graduate of the Medical School of Athens. His psychiatric training was completed in Aeginition Hospital, Athens, and Charring Cross Psychiatric training Scheme, London, UK. He has worked in London in various posts, like Community Drug and Alcohol Teams and Crisis Resolution Home Treatment team. The last post was as Consultant psychiatrist in Community Mental Health Team at South London and Maudsley Trust before he returned to Greece in late 2005. Since then he has been part of Greek National Health system and worked for the last 5 years at the Psychiatric Hospital of Attica.

He completed his MSc in Psychiatric Research at Institute of Psychiatry, London, UK. He is in the process of finishing his PhD. He has training in Brief Solution Focused Therapy and Interpersonal Psychotherapy.

His special interests include Epidemiology, Forensic Psychiatry, patients' rights and community psychiatry. He has been secretary of Forensic Psychiatric Section of Hellenic Psychiatric Association and actively involved in organizing and teaching at European co-funded educational programs about de-institutionalization, community psychiatry and forensic psychiatry. Now he is also member of the Board of the Hellenic Psychiatric Association.

**Tzeferakos, George**

Psychiatrist, Scientific Associate, Forensic Psychiatric Unit of the 2nd Department of Psychiatry, "Attikon" Hospital, University of Athens, Greece

George Tzeferakos is a psychiatrist, who completed his specialization in the 1st Department of Psychiatry/"Aeginition" Hospital - University of Athens. He is a scientific associate to the Forensic Psychiatric Unit of the 2nd Department of Psychiatry/"Attikon" Hospital - University of Athens. He also works into the Psychiatric Hospital of the Correctional Facility of "Koredallos". He is the chief editor of the newsletter of the Forensic Psychiatric Branch of the Hellenic Psychiatric Association and also the secretary of this branch.



Vernon, David

Senior Lecturer Dept: Applied
Social Sciences Canterbury Christ
Church University, Canterbury, UK

Senior Lecturer Dept: Applied Social Sciences University of Kent at Canterbury, Research Assistant (Psychology), University Of Kent at Canterbury (UK) Research interests cover a range of cognitive and neuropsychological topics. He is particularly interested in the field of Positive Psychology and the various techniques that have been used over time to aid or enhance some aspect of human performance. David has a special interest in the use of electroencephalographic biofeedback and cortical entrainment techniques to enhance cognition. He is author of 24 peer reviewed papers, book "Human potential: exploring techniques used to enhance human performance", many conferences presentations.



Virvidakis, Eleanna

Teaching Associate, T.E.I of
Epirus, School of Health &
Welfare, Department of Speech
and Language Therapy, Ioannina,
Greece

Mrs. Eleanna Virvidaki was born and raised in Athens, Greece. In 1994, she began her studies in Boston, USA where she received a Bachelor's of Science degree in the field of biology, following a premedical program. In 2001, she received a Master of Science degree from Boston University in the field of speech-language pathology. She then became a holder of the Certificate of Clinical Competence (CCC) on Communication Disorders from the renowned American Speech-Language-Hearing Association (ASHA), of which she is still a member today. While in the US, she worked in major acute care and rehabilitation hospitals, including Mass General Hospital, Beth Israel Deaconess Hospital and others.

In 2003, she returned to Athens, Greece. Since then, her clinical work has centered on the assessment and treatment of patients with acquired aphasia and dysphagia. She has been an invited speaker for many international and local conventions that focus on dysphagia management. She is a member of Panhellenic Association of Logopedists and of the European Study Group for Dysphagia and Globus.

In 2009, she moved to the city of Ioannina, where she started teaching at the Department of Speech-Language Pathology of the Technological Educational Institute of Epirus. She is also one of the founding members of the Voice & Swallowing Center of Athens while she maintains her private practice in Ioannina, evaluating and treating both children and adults with neurogenic and developmental communication deficits.



Viveros, Maria-Paz
Professor in Physiology,
Physiology Department,
Biology University Complutense
University of Madrid, Madrid,
Spain

Dr Viveros is Full Professor at the Department of Physiology (Animal Physiology II) in the Faculty of Biological Sciences of the Complutense University of Madrid (Universidad Complutense de Madrid, UCM), in Spain. She has a solid background in behavioral pharmacology, with a special interest in drugs of abuse such as cannabinoids, opioids and nicotine. She and her research group have focused in the investigation of psychoneuroendocrine factors accounting for an increased vulnerability for neuropsychiatric disorders, including drug addiction. The endocannabinoid system has become pivotal in her research as its homeostatic balance seems to be crucial for stress responsiveness, emotional processing and cognitive function; thus playing a key role in mental health. Throughout her scientific trajectory, sex differences have been of major interest. Actually, the research group she leads is pioneer in the investigation of sexual dimorphisms in animal models. She has supervised several research projects in Neurosciences, including several Doctoral Theses and is principal investigator of several research projects. Currently, she is involved in the study of neuropsychiatric disorders by means of an animal model of early life stress, i.e. maternal deprivation, evaluating developmental sex-dependent trajectories along the lifespan (infancy, adolescence and adulthood) and its possible interactions with environmental insults such as drugs of abuse (cannabinoids, cocaine, ecstasy, etc.) or psychophysiological stress. She has productive collaborations established along years with national and international prestigious research groups. She has been invited to present diverse talks and seminars in numerous International and Spanish Meetings and Workshops, including ECNP and SfN among many others, acts as reviewer of numerous outstanding journals and is member of the editorial boards of journals such as *Pharmacology*, *Biochemistry and Behaviour* among others. Most of her published papers can be found by including Viveros MP (author) in the PubMed.



Wackermann, Paula Viana
Assistant Doctor at the BDH-
Klinik Elzach (Neurological
Rehabilitation Clinic), Germany

Doctor in Medicine (area: Neurology) by the University of São Paulo: "Neurological and Electrophysiological Aspects and MRI in the chronic form of Chagas' disease". Has her Post-doctor study at the Central Institute for Mental Health, Dept. of Child and Adolescent Psychiatry and Psychotherapy, Mannheim, Germany. Currently -Assistant Doctor at the BDH-Klinik Elzach (Neurological Rehabilitation Clinic), Germany Author more than 20 publications Research interests connected with study the involvement of the central nervous systems in the chronic form of Chagas' disease, P300 amplitude in offspring of alcoholic parents, EEG patterns of Musical perception.



Xekardaki, Aikaterini

Resident in Psychiatry in the
University Hospital of Geneva,
Switzerland

Dr Xekardaki received her medical degree from the University of Crete in 2006. She was trained in general medicine formation in Strasbourg (2006-2009) and is currently at her third year resident in psychiatry in the University Hospital of Geneva. She works part-time clinical research (50%) in SPUM project for the analysis of MRI data since January 2011. She received a Scholarship of Minoan Lines for being the student with the top grades to succeed in the Medical Department of Crete in 2000 and a two-year scholarship from the Swiss National Foundation (2011-2013).



Zeki, Semir

Professor of Neuroesthetics,
University College London, UK

Professor of Neuroesthetics at University College London (UCL) 2007 - ; previously Professor of Neurobiology at UCL (1980-2007). Primary interests: the functional organization of the visual brain, the neurobiology of knowledge and the neural sources of aesthetic appreciation and creativity. Fellow of the Royal Society, London; Founder Fellow of the Academy of Medical Sciences, London; Foreign Member, American Philosophical Society; Member, Academia Europeae and European Academy of Sciences and Arts. Prizes include: Prix Science pour l'art (Paris, 1991); Rank Prize in opto-electronics (Rank Foundation, 1992); King Faisal International Prize in Biology, 2004; Erasmus Medal (Academia Europeae, 2008). Books: *A Vision of the Brain* (Blackwell, 1993); *La Quête de l'essentiel* (with Balthus) (Archimbaud, 1995); *Inner Vision: an exploration of art and the brain* (Oxford, 1999); *Splendors and Miseries of the Brain* (Blackwell, 2009); *La bella e la bestia* (co-authored with Ludovica Lumer) (Laterza, 2011). Art exhibition: *Bianco su bianco; oltre Malevich*, at the Museo Pecci d'arte contemporanea, Milan (2011). Member of the National Science Council of France 1998-2002; Member, Board of Scientific Governors, Scripps Research Institute, La Jolla, California; Editor, *Philosophical Transactions of the Royal Society, B*, 1997-2004.



Acknowledgements

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υδατικό διάλυμα. **ΚΑΤΟΧΟΣ ΤΗΣ ΑΔΕΙΑΣ ΚΥΚΛΟΦΟΡΙΑΣ:** JANSSEN-Cilag Φαρμακευτική Α.Ε.Β.Ε., Α. Ειρήνης 56, 151 21 Πεύκη, Αθήνα. **ΑΡΙΘΜΟΣ(ΟΙ) ΑΔΕΙΑΣ ΚΥΚΛΟΦΟΡΙΑΣ:** Κόκκι και διαλύτης για ενέσιμο εναιώρημα 25 mg: 40460/04.11.2008. Κόκκι και διαλύτης για ενέσιμο εναιώρημα 37,5 mg: 40462/04.11.2008. Κόκκι και διαλύτης για ενέσιμο εναιώρημα 50 mg: 40464/11.09.2008. **ΗΜΕΡΟΜΗΝΙΑ ΑΝΑΘΕΩΡΗΣΗΣ ΤΟΥ ΚΕΙΜΕΝΟΥ:** 9 Σεπτεμβρίου 2010. **ΤΡΟΠΟΣ ΔΙΑΘΕΣΗΣ:** Φαρμακευτικό προϊόν για το οποίο απαιτείται ιατρική συνταγή.

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ABILIFY 10 mg, δισκία
ABILIFY 15 mg, δισκία
ABILIFY 30 mg, δισκία
ABILIFY 10 mg, διασπώσιμο στο στόμα δισκίο
ABILIFY 15 mg, διασπώσιμο στο στόμα δισκίο
ABILIFY 1 mg/ml πόσιμο διάλυμα

2. ΡΩΤΗΤΙΚΗ ΚΑΙ ΡΟΣΩΤΙΚΗ ΣΥΝΘΕΣΗ

ΔΙΣΚΙΑ

ABILIFY 10 mg: Κάθε δισκίο περιέχει 10 mg αραπραζόλης. Έκδοχα: 62,18 mg λακτόζη ανά δισκίο
ABILIFY 15 mg: Κάθε δισκίο περιέχει 15 mg αραπραζόλης. Έκδοχα: 57 mg λακτόζη ανά δισκίο
ABILIFY 30 mg: Κάθε δισκίο περιέχει 30 mg αραπραζόλης. Έκδοχα: 186,54 mg λακτόζη ανά δισκίο

ΔΙΑΣΠΩΣΙΜΑ ΣΤΟ ΣΤΟΜΑ ΔΙΣΚΙΑ

ABILIFY 10 mg: Κάθε διασπώσιμο στο στόμα δισκίο περιέχει 10 mg αραπραζόλης. Έκδοχα: 2 mg αραπραζόλη (E951) και διασπώσιμο στο στόμα δισκίο
ABILIFY 15 mg: Κάθε διασπώσιμο στο στόμα δισκίο περιέχει 15 mg αραπραζόλης. Έκδοχα: 3 mg αραπραζόλη (E951) και διασπώσιμο στο στόμα δισκίο

ΠΟΣΙΜΟ ΔΙΑΛΥΜΑ

Κάθε ml πόσιμου διαλύματος ABILIFY περιέχει 1 mg αραπραζόλης. Έκδοχα: 200 mg φρουκτόζη ανά ml, 400 mg σακχαρώδη ανά ml, 1,8 mg παραϊσοβουβενζονικός μεθυλεστεράς (E218) ανά ml, 0,2 mg παραϊσοβουβενζονικός προπιλοεστεράς (E216) ανά ml

Για τον πλήρη κατάλογο των εκδόχων, βλ. παράγραφο 6.1.

3. ΦΑΡΜΑΚΟΤΕΧΝΙΚΗ ΜΟΡΦΗ

Δισκίο 10 mg: Ορθογώνιο και ροζ, χαραγμένο με "A-008" και "10" στη μια πλευρά.
Δισκίο 15 mg: Στρογγυλό και κίτρινο, χαραγμένο με "A-009" και "15" στη μια πλευρά.
Δισκίο 30 mg: Στρογγυλό και ροζ, χαραγμένο με "A-011" και "30" στη μια πλευρά.
Διασπώσιμο στο στόμα δισκίο 10 mg: Στρογγυλό και ροζ, εμποτισμένο με "K" πάνω από "607" στη μια πλευρά και 10 στη άλλη.
Διασπώσιμο στο στόμα δισκίο 15 mg: Στρογγυλό και κίτρινο, εμποτισμένο με "K" πάνω από "641" στη μια πλευρά και 15 στη άλλη.
Πόσιμο διάλυμα: Διαγυάλι, άχρωμο έως ανοικτό κίτρινο υγρό

4. ΚΛΙΝΙΚΗΣ ΠΑΡΗΘΟΡΕΙΣ

4.1 Θεραπευτικές ενδείξεις

Το ABILIFY ενδείκνυται για τη θεραπεία της σχιζοφρένειας σε ενήλικες και εφήβους 15 ετών και άνω.
Το ABILIFY ενδείκνυται για τη θεραπεία ήπιων έως σοβαρών μανιακών επεισοδίων σε άσπιλη διαταραχή τύπου I και για την πρόληψη νέων μανιακών επεισοδίων σε ασθενείς που εμφάνισαν κριμας μανιακού επεισοδίου και των επεισοδίων μανιακού επεισοδίου ανταποκρίθηκαν στη θεραπεία με αραπραζόλη.

4.2 Δοσολογία και τρόπος χορήγησης

Δοσολογία

Ενήλικες:

Σχιζοφρένεια: η συνιστώμενη δόση έναρξης του ABILIFY είναι 10 ή 15 mg/ημέρα, με δόση συντήρησης 15 mg/ημέρα, χορηγούμενα μια φορά ημερησίως, ανεξαρτήτως των γευμάτων.

Το ABILIFY είναι αποτελεσματικό σε ενήλικες ασθενείς από 10 έως 30 mg/ημέρα. Δεν έχει αποδειχθεί αυξημένη αποτελεσματικότητα με δόσεις μεγαλύτερες μιας ημερήσιας δόσης 15 mg αν και μεμονωμένοι ασθενείς μπορεί να ωφεληθούν από μια μεγαλύτερη δόση. Η μέγιστη ημερήσια δόση δεν πρέπει να ξεπερνάει τα 30 mg.

Μανιακά επεισόδια: η συνιστώμενη δόση έναρξης του ABILIFY είναι 15 mg/ημέρα χορηγούμενα με πρόγραμμα λήψης μιας φοράς την ημέρα ανεξαρτήτως γευμάτων μια μονομερή δόση ή θεραπείας συνδυασμού (βλ. παράγραφο 5.1). Ορισμένοι ασθενείς μπορεί να ωφεληθούν από υψηλότερη δόση. Η μέγιστη ημερήσια δόση δεν πρέπει να υπερβεί τα 30 mg.

Πρόληψη υποτροπής μανιακών επεισοδίων στην άσπιλη διαταραχή τύπου I: για την πρόληψη της υποτροπής μανιακών επεισοδίων σε ασθενείς που λαμβάνουν αραπραζόλη ως μονοθεραπεία ή θεραπεία συνδυασμού, συνιστεί τη θεραπεία στην ίδια δόση. Ρυθμίσεις της ημερήσιας δοσολογίας, περιλαμβανομένης της δόσης, πρέπει να εξετάζονται με βάση την κλινική κατάσταση.

Παιδιατρική πληθυσμός:

Σχιζοφρένεια σε εφήβους 15 ετών και άνω: η συνιστώμενη δόση για το ABILIFY είναι 10 mg/ημέρα χορηγούμενα σε σχήμα μιας φοράς ημερησίως σε ενήλικες γευμάτων. Η θεραπεία πρέπει να αρχίζει από 2 mg (χρησιμοποιώντας ABILIFY πόσιμο διάλυμα 1 mg/ml) και να αυξάνεται σε 5 mg για 2 εβδομάδες ημέρες προκειμένου να επιτευχθεί η συνιστώμενη ημερήσια δόση των 10 mg. Όταν κρίνεται κατάλληλο, επιπλέον ενδείξεις της δόσης πρέπει να χορηγούνται σε κλίμακα των 5 mg ημερησίως να υπερβεί τα 10 mg/ημέρα δόση των 30 mg (βλ. παράγραφο 5.1).

Το ABILIFY είναι αποτελεσματικό σε ενήλικες ασθενείς από 10 έως 30 mg/ημέρα. Δεν έχει αποδειχθεί αυξημένη αποτελεσματικότητα σε εφήβους με δόσεις υψηλότερες της ημερήσιας δόσης των 10 mg παρά μεμονωμένοι ασθενείς είναι πιθανό να ωφεληθούν από υψηλότερη δόση.

Το ABILIFY δε συνιστάται προς χρήση σε ασθενείς ηλικίας κάτω των 15 ετών λόγω ανεπαρκών στοιχείων ασφαλείας και αποτελεσματικότητας (βλ. παράγραφο 4.8 και 5.1).

Επιρεσιμότητα σχετιζόμενη με άσπιλη διαταραχή: η ασφαλεία και η αποτελεσματικότητα του ABILIFY σε παιδιά και εφήβους κάτω των 18 ετών δεν έχουν ακόμα τεκμηριωθεί. Τα παρόντα διαθέσιμα δεδομένα περιγράφονται στην παράγραφο 5.1 αλλά δε μπορεί να είναι αξιόπιστα για τη δοσολογία.

Ασθενείς με ηπατική δυσλειτουργία: δεν απαιτείται ρύθμιση της δοσολογίας σε ασθενείς με ήπια έως μέτρια ηπατική δυσλειτουργία. Σε ασθενείς με σοβαρή ηπατική δυσλειτουργία, τα δεδομένα που υπάρχουν είναι ανεπαρκή για να καθοριστούν ανεπαρκώς συστάσεις. Στους ασθενείς στους οποίους η ρύθμιση της δοσολογίας θα πρέπει να γίνεται με προσοχή. Ορισμένοι, η μέγιστη ημερήσια δόση των 30 mg θα πρέπει να χρησιμοποιείται με προσοχή σε ασθενείς με σοβαρή ηπατική δυσλειτουργία (βλ. παράγραφο 5.2).

Ασθενείς με νεφρική δυσλειτουργία: δεν απαιτείται ρύθμιση της δοσολογίας σε ασθενείς με ηπατική δυσλειτουργία.

Παλαιότερα: η αποτελεσματικότητα του ABILIFY για τη θεραπεία της σχιζοφρένειας και της άσπιλης διαταραχής τύπου I σε ασθενείς 65 ετών ή μεγαλύτερους δεν έχει αποδειχθεί. Λόγω αυξημένης ευαισθησίας της πληθυσμιακής αυτής ομάδας, θα πρέπει να εξετάζεται η χορήγηση μικρότερης δόσης έναρξης όταν κλινικά παραγοντες το δικαιολογούν (βλ. παράγραφο 4.4).

Άλλοι: δεν απαιτείται ρύθμιση της δοσολογίας για τις γυναίκες ασθενείς, σε σύγκριση με τους άνδρες ασθενείς (βλ. παράγραφο 4.4).

Καταστάσεις: σύμφωνα με την μεταβολική οδό του ABILIFY δεν απαιτείται ρύθμιση της δοσολογίας για τους καπνιστές (βλ. παράγραφο 4.5).

Προσομοίηση της δόσης λόγω αλληλεπιδράσεων:

Όταν υπάρχει ταυτόχρονη χρήση ισχυρών ανασταλτών των CYP3A4 ή CYP2D6 με αραπραζόλη, η δόση της αραπραζόλης θα πρέπει να ελαττώνεται. Όταν ο ανασταλτής του CYP3A4 ή CYP2D6 αποσύρεται από τη θεραπεία συνδυασμού, η δόση της αραπραζόλης θα πρέπει μετά να αυξηθεί (βλ. παράγραφο 4.5).

Όταν υπάρχει ταυτόχρονη χρήση ισχυρών επαγωγών του CYP3A4 με αραπραζόλη, η δόση της αραπραζόλης θα πρέπει να αυξηθεί. Όταν ο επαγωγής του CYP3A4 αποσύρεται από τη θεραπεία συνδυασμού, η δόση της αραπραζόλης θα πρέπει μετά να μειωθεί στη συνιστώμενη δόση (βλ. παράγραφο 4.5).

Τρόπος χορήγησης

Τα δισκία ABILIFY προορίζονται για από του στόματος χρήση.

ΔΙΑΣΠΩΣΙΜΑ ΣΤΟ ΣΤΟΜΑ ΔΙΣΚΙΑ

Τα διασπώσιμα στο στόμα δισκία πρέπει να τοποθετούνται μόνο στο στόμα πάνω στη γλώσσα, όπου και θα διασπώσουν γρήγορα στο αίμα. Μπορεί να ληφθεί με ή χωρίς νερό. Η απομάκρυνση του σπασμού διασπώσιμου στο στόμα δισκίου από το στόμα είναι δύσκολη. Επιπλέον το διασπώσιμο στο στόμα δισκίο είναι εύθραστο, πρέπει να λαμβάνεται αμέσως μετά το άνοιγμα της καψέλης. Ενυδατωμένο, διασπείρεται το δισκίο σε νερό και πάλι το εναιώρημα που προκύπτει.

Τα διασπώσιμα στο στόμα δισκία μπορούν να χρησιμοποιηθούν ενωλοκτικά με το δισκίο ABILIFY για τους ασθενείς που έχουν δυσκολία στην κατάποση δισκίων ABILIFY.

Τα διασπώσιμα στο στόμα δισκία ABILIFY προορίζονται για από του στόματος χρήση.

ΠΟΣΙΜΟ ΔΙΑΛΥΜΑ

Το πόσιμο διάλυμα ABILIFY μπορεί να χρησιμοποιηθεί ως ενωλοκτικό των δισκίων ABILIFY στους ασθενείς που έχουν δυσκολία να καταπονήσουν τα δισκία ABILIFY.

Ένα βελτιστοποιημένο κίτριλο μέτρημα και ένα βελτιστοποιημένο σπογγώδες των 2 ml περιλαμβάνονται στο κίβλι.

Το πόσιμο διάλυμα ABILIFY προορίζονται για από του στόματος χρήση.

4.3 Αντενδείξεις

Υπερευαεμία στη δραστική ουσία ή σε κάποιο από τα έκδοχα.

4.4 Ειδικές προειδοποιήσεις και προφυλάξεις κατά τη χρήση

Κατά την αντιψυχωτική θεραπεία, η βελτίωση της κλινικής κατάστασης του ασθενούς, μπορεί να χρειαστεί αρκετές ημέρες ή και εβδομάδες. Σε όλα την περίοδο αυτή ο ασθενής πρέπει να βρίσκεται υπό στενή παρακολούθηση.

Η εμφάνιση αυτοκτονικών συμπεριφορών είναι εγγενής σε ψυχιατρικές νόσους και διαταραχές διάθεσης και σε ορισμένες περιπτώσεις έχει αναφερθεί ήδη μετά την έναρξη ή την αλλαγή της θεραπείας, περιλαμβανομένης θεραπείας με αραπραζόλη (βλ. παράγραφο 4.8). Στενή παρακολούθηση των ασθενών υψηλού κινδύνου πρέπει να συνδυαστεί με αντιψυχωτική θεραπεία. Αποκλιμάκωση μιας επιψυχωτικής μελέτης υποδείχνει ότι μεταξύ ασθενών με σχιζοφρένεια ή άσπιλη διαταραχή δεν υπάρχει αυξημένος κίνδυνος αυτοκτονίας με την αραπραζόλη σε σύγκριση με άλλα αντιψυχωτικά.

Καρδιαγγειακές διαταραχές: η αραπραζόλη θα πρέπει να χρησιμοποιείται με προσοχή σε ασθενείς με διαγνωσμένη καρδιαγγειακή νόσο (ιστορικά εμφράγματα του μυοκαρδίου ή ισχαιμική καρδιοπάθεια, καρδιακή ανεπάρκεια, ή ύπαιθρες αρτηριακές), συγγενή καρδιακή νόσο, κατάσταση που θα προέβλεπε τους ασθενείς για επιβλαβή ύπαιθρες (αρρυθμίες, υποτακτώσεις, και ούτως ή άλλως ανεπαρκώς φαρμακευτικά προϊόντα) ή υπέρταση, συμπεριλαμβανομένων των ηλικιών εξελισσόμενης ή της κοιλιακής. Έχουν αναφερθεί με αντιψυχωτικά φάρμακα περιστασιακά φθινοβόλα βρομοληθία (NTE) διακρίνεται ότι οι ασθενείς που λαμβάνουν αντιψυχωτικά παρασκευάσματα υψηλού κινδύνου παράγοντας κίνδυνο για VTE, πρέπει να προσδοκούνται όλοι οι πιθανοί παράγοντες κινδύνου για VTE πριν και κατά τη διάρκεια της θεραπείας με ABILIFY και να λαμβάνονται προληπτικά μέτρα.

Διαταραχές παραπίπτει: σε κλινικές δοκιμές της αραπραζόλης, η επίπτωση της παράστασης του διαστήματος QT ήταν ανεπαρκής με εκείνη του ελεγχτικού φαρμάκου. Όπως με άλλα αντιψυχωτικά, η αραπραζόλη θα πρέπει να χρησιμοποιείται με προσοχή σε ασθενείς με οικογενειακό ιστορικό παράστασης QT.

Όξινος διαταραχές (Παθών ηπατικής): σε κλινικές δοκιμές διάρκειας ενός έτους ή λιγότερο, υπήρχαν όχι συχνές αναφορές διαταραχών που απαιτούν επίσημο θεραπευτικό κατά τη διάρκεια της θεραπείας με αραπραζόλη. Αν κάποιος ασθενής παρουσιάσει σημεία και συμπτώματα όξινου διαταραχής ενώ λαμβάνει θεραπεία με ABILIFY, πρέπει να εξετάζεται η μείωση της δόσης ή και η διακοπή της λήψης. Τα συμπτώματα αυτά μπορεί να προκύψουν με ανεπαρκή ή ακόμα μπορεί να ανιχνευθούν μετά τη διακοπή της θεραπείας.

Κακώδεις Νευροληπτικό Σύστημα (Νευροληπτικό Malignant Syndrome, NMS): το NMS είναι ένα δύσκολο διαγνωστικό σύνδρομο, σχετιζόμενο με αντιψυχωτικά φαρμακευτικά προϊόντα. Σε κλινικές δοκιμές, αναφέρθηκαν σπάνιες περιπτώσεις NMS κατά τη διάρκεια της θεραπείας με αραπραζόλη. Οι κλινικές εκδηλώσεις του NMS είναι υπεργραμμία, μυϊκή ακαμψία, αλλαγή της ψευρευτικής κατάστασης και έμφια αυτονόμου σπασμού (ανεκτικότητα σπασμού ή αρτηριακή πίεση, ταχυκαρδία, διαταραχή και καρδιακή δυσλειτουργία). Πρόσθετα σημεία μπορεί να περιλαμβάνουν αυξημένη κρεατιναιμία, μυοκαρδιοπάθεια, μυοκαρδιοπάθεια (μυοβλαστική) και οξεία νεφρική ανεπάρκεια. Διότι, έχουν επίσης αναφερθεί αυξημένη κρεατιναιμία και μυοβλαστική, έχει παρατηρηθεί σχετιζόμενη με NMS. Εάν ο ασθενής παρουσιάσει σημεία και συμπτώματα ενδεικτικά του NMS, ή εμφανιστεί ανεπιθύη υψηλό ποσοστό μυϊκής πρόσδεσης κλινικές εκδηλώσεις για NMS, όλα τα αντιψυχωτικά φαρμακευτικά προϊόντα, συμπεριλαμβανομένου και του ABILIFY, πρέπει να διακοπείνται.

Επιπτώσεις κρίσης: σε κλινικές δοκιμές, αναφέρθηκαν έξι συχνές περιπτώσεις επιπτώσεων κρίσεων κατά τη διάρκεια της θεραπείας με αραπραζόλη. Κατά συνέπεια, η αραπραζόλη πρέπει να χρησιμοποιείται με προσοχή σε ασθενείς με ιστορικά διαταραχές επιπτώσεων κρίσεων ή σε ασθενείς που έχουν προϋπάρχουσες που σχετίζονται με επιπτώσεις κρίσεων.

Ηλικιωμένοι ασθενείς με φάρμακα που σχετίζονται με όπιο:

Αυξημένη θνησιμότητα σε τρεις ηλικιακές με επικινδύνους φάρμακα δοσολογίας (n=938, μέση ηλικία: 82,4 έτη, εύρος: 56-99 έτη) της αραπραζόλης σε ηλικιωμένους ασθενείς με φάρμακα που σχετίζονται με όπιο του Alzheimer, σε ασθενείς που λαμβάνουν αραπραζόλη είχαν αυξημένο κίνδυνο θανάτου σε σχέση με το ελεγχτικό φάρμακο. Το ποσοστό του θανάτου στους ασθενείς που λαμβάνουν αραπραζόλη ήταν 3,5% σε σύγκριση με το 1,7% της ομάδας του ελεγχτικού φαρμάκου. Αν και οι απτές θανάτους διαφέρουν οι παρατηρούμενοι θάνατοι φάνηκε ότι ήταν είτε καρδιαγγειακής (π.χ. καρδιακή ανεπάρκεια, αρτηριακές θάνατοι) είτε καρδιακών φύσεως (π.χ. περικαρδίτις).

Αγχοκίνητοι ηπατοβίαιες ενδείξεις: στις ίδιες δοκιμές, αγχοκίνητοι ηπατοβίαιες ενδείξεις (π.χ. ηπατοβίαια επεισόδια, παροδικά αυξημένα επίπεδα), περιλαμβανομένων και θανάτων, αναφέρθηκαν στους ασθενείς (μέση ηλικία 84 έτη, εύρος: 78-88 έτη). Συνολικά, το 1,3% των ασθενών που λάμβαναν αραπραζόλη ανέφεραν

αγγακία εγκυρλωθείς ανεπιθύμητες ενέργειες ανεπιθύμητα με το 0,6% των ασθενών που λάμβαναν το εκανικό φάρμακο στις δοσικές αυτές. Η διαφορά αυτή δεν ήταν στατιστικά σημαντική. Ωστόσο, σε μια από τις δοσικές αυτές, μια μελέτη καθορισμένης διάρκειας, υπήρξε σημαντική σχέση δόσης/απόκρισης για τις αγγακίες εγκυρλωθείς ανεπιθύμητες ενέργειες σε ασθενείς που λάμβαναν αραπραζόλη.

Το ABILIFY δεν ενδείκνυται για τη θεραπεία φάρμακο που σχετίζεται με την ένα.

Υπερβολικότητα και τοξικότητα δοσής: έχει αναφερθεί υπερβολικότητα, μερικές φορές ακραία και σχετιζόμενη με κατάλυση ή υπερμαγνητικό κύμα ή θύναση, σε ασθενείς που έλαβαν άτυπες αντινευρωμικές ουσίες, συμπεριλαμβανομένης του ABILIFY. Παρόμοιες κινήσεις που πιθανόν να προεξοφλούν τους ασθενείς είναι σοβαρές επιπτώσεις συμπεριλαμβανομένης πτώσης και αναγεννητικό ιστορικό δοσής. Σε κλινικές δοσικές με αραπραζόλη, δεν υπήρξαν σημαντικές διαφορές στα ποσοστά εμφάνισης ανεπιθύμητων ενεργειών που σχετίζονται με υπεργλυκαιμία (πυλαρβανόμηση του σακχάρου στο αίμα) ή μη-φωσφορικά γλυκοποιημένα τριφύλακτα σε σύγκριση με το εκανικό φάρμακο. Αρκετές επιπτώσεις κίνησης ανεπιθύμητων ενεργειών που σχετίζονται με υπερβολικότητα σε ασθενείς που έλαβαν ABILIFY και με άλλους αντινευρωμικούς παράγοντες, δεν είναι δοσής για να επιτηρήσουν άμεσες αναφορές. Οι ασθενείς που λαμβάνουν οποιαδήποτε αντινευρωμικό παράγοντα περιλαμβανομένου και του ABILIFY, πρέπει να παρακολουθούνται για σημεία και συμπτώματα υπεργλυκαιμίας (όπως δίψα, πολυουρία, πολυφαγία και εξοσφίση) και σε ασθενείς με σακχαρώδη διαβήτη ή με παρόντες κινήσεις να σακχαρώδη διαβήτη πρέπει να παρακολουθούνται τακτικά για επιδείνωση του ελαφρού της γλυκόζης.

Υπερβολικότητα: όπως με άλλα φάρμακα, με την αραπραζόλη είναι δυνατό να εκδηλωθούν ανεπιθύμητες, υπερνευρωμικές, που χαρακτηρίζονται από αλλαγές συμπεριφοράς (βλέπε παράγραφο 4.8).

Αδύναμη δόσης: οι έντονη δόση παρατηρείται συχνά στους πάσχοντες από σχιζοφρένεια και διπολική μανία λόγω συννοσηριότητας, χρήσης αντινευρωμικών που είναι γνωστό ότι προκαλούν αδύναμη δόση, κακής συμπεριφοράς του τρόπου ζωής, και εκδήλωση σε οξεία επιπτώσεις. Αδύναμη δόση έχει αναφερθεί μεταξύ ασθενών που έλαβαν ABILIFY μετά την εισαγωγή. Όταν παρατηρείται, συμβαίνει συνήθως σε ασθενείς με σημαντικούς παρόντες κινήσεις όπως ιστορικό δοσής, διαταραχή του θυρεοειδούς ή αδύναμη δόση. Σε κλινικές δοσικές η αραπραζόλη δεν φέρνει να προκαλέσει κλινικά σημαντική αδύναμη δόση.

Απορρόφηση: η απορρόφηση του αραπραζόλη και η απορρόφηση έχουν αναφερθεί με τη χρήση αντινευρωμικών θεραπευτικών συμπεριλαμβανομένης του ABILIFY. Η αραπραζόλη και οι άλλες αντινευρωμικές δραστικές ουσίες θα πρέπει να χρησιμοποιούνται με προσοχή σε ασθενείς με κινήσεις πτωχικές από εισαγωγή.

Δοσής: το δοσικό ABILIFY περιέχει λακτόζη. Ασθενείς με σπάνια κληρονομικά προβλήματα δυσανεξίας στη γαλακτοζή, ανεπιθύμητα λακτόζη, λακτοζόλη ή δυσανεξία γαλακτοζής, δεν πρέπει να πάρουν αυτό το φαρμακευτικό προϊόν.

ΔΙΑΣΠΕΡΙΩΜΕΝΑ ΣΤΟ ΣΤΟΜΑ ΔΙΣΚΙΑ

Ασθενείς με φυσιολογική: τα διασπείρονται στο στόμα δοσικό ABILIFY περιέχει αραπραζόλη, μια υψηλή φυσιολογική που μπορεί να είναι επιβλαβής σε άτομα με φυσιολογική.

ΠΟΣΙΜΟ ΔΙΑΓΝΩΣΗ

Ασθενείς: Το ποσικό δοσικό περιέχει φρακτόζη. Ασθενείς με σπάνια κληρονομικά προβλήματα δυσανεξίας στη φρακτόζη δεν πρέπει να πάρουν το φαρμακευτικό προϊόν αυτό.

Το ποσικό δοσικό περιέχει παραδοξοφωσφορικό μεταλλικό και παραδοξοφωσφορικό μεταλλικό που μπορεί να προκαλέσουν αλλεργικές αντιδράσεις (πυλινές καθυστερήσεις).

Το ποσικό δοσικό περιέχει σακχαρώδη. Ασθενείς με σπάνια κληρονομικά προβλήματα δυσανεξίας στη φρακτόζη, δυσανεξία γαλακτοζής-γαλακτοζής ή ανεπιθύμητα σακχαρώδη-ισομελκίτες δεν πρέπει να πάρουν το ποσικό δοσικό.

4.5 Αλληλεπιδράσεις με άλλα φαρμακευτικά προϊόντα και άλλες μορφές αλληλεπιδράσεις

Άλλα τα αναγνωριστικά με τους α-ανδρογενετικούς υποδοχείς η αραπραζόλη έχει τη δυνατότητα να ενεργεί την ενεργία ορμονών αντιανδρογενετικών παραγόντων.

Επίσης η αραπραζόλη δρα κυρίως στο ΚΝΣ. Θα πρέπει να ερμηνεύεται η προσοχή όταν η αραπραζόλη λαμβάνεται μαζί με οποιαδήποτε (ακόμα) ή άλλα φαρμακευτικά προϊόντα που ΚΝΣ με αλληλεπιδρατικές ανεπιθύμητες ενέργειες όπως η καταστολή (βλέπε παράγραφο 4.8).

Θα πρέπει να ερμηνεύεται η προσοχή εάν η αραπραζόλη χρησιμοποιείται ταυτόχρονα με φαρμακευτικά προϊόντα που είναι γνωστό ότι προκαλούν παράταση του QT ή φαρμακοδυναμικές διαταραχές.

Δυνατότητα άλλων φαρμακευτικών προϊόντων να επηρεάζουν το ABILIFY:

Ένας αποκλειστικός του γαστρικού οξέως, ο ανασταθμιστής Η2 φαρμάκων μειώνει την ταχύτητα απορρόφησης της αραπραζόλης, αλλά η δράση αυτή δεν θεωρείται ως κλινικά σημαντική.

Η αραπραζόλη μεταβολίζεται με μηλικτικές οξείες, στις οποίες συμμετέχουν τα ένζυμα CYP2D6 και CYP3A4 αλλά όχι τα ένζυμα CYP1A. Επομένως, δεν αναμένεται προσαρμογή της δόσης για τους καπνιστές.

Σε μια κλινική δοσική με υγιείς εθελοντές (ένας σχιζοφρένεια, ένας σχιζοφρένεια) του CYP2D6 (εκατόμη) αόριστη την AUC της αραπραζόλης κατά 107%, ενώ η C_{max} παρέμεινε αμετάβλητη. Η AUC και η C_{max} της διδύμο-αραπραζόλης, αόριστησαν κατά 77% και 43%, αντίστοιχα. Η ταχύτητα μείωσης ούρων που προκαλούν απώλεια μεταβολισμού στο CYP2D6, συγγενούς με σχιζοφρένεια, αραπραζόλη μπορεί να οδηγήσει σε υψηλότερες συγκεντρώσεις αραπραζόλης στο πλάσμα σε σύγκριση με εκείνες τις οποίες που προκαλούν καταστολή μεταβολισμού στο CYP2D6. Όταν εξετάζεται ταυτόχρονη χορήγηση καταστολής ή άλλου υγιούς αναστάτη CYP3A4 με το ABILIFY, τα ενδεδειγμένα οφέλη θα πρέπει να υποτιμολογούνται τους ενδεδειγμένους κινήσεις για την ασθένεια. Όταν υπάρχει ταυτόχρονη χορήγηση καταστολής με ABILIFY, η δόση του ABILIFY θα πρέπει να ελαττώνεται περίπου στο μισό της αντιπροσώρουμησης. Άλλοι σχιζοφρένεια του CYP3A4, όπως η προκωζόλη και οι αναστάτη προμυετίνη του HIV, μπορεί να αναμένεται ότι θα έχουν παρόμοιες ενέργειες και γ' αυτό θα πρέπει να γίνεται παρόμοια μείωση της δόσης.

Σε μια κλινική δοσική με υγιείς εθελοντές (ένας σχιζοφρένεια, ένας σχιζοφρένεια) του CYP3A4 (καταστολή) αόριστη την AUC και τη C_{max} της αραπραζόλης κατά 63% και 37%, αντίστοιχα. Η AUC και η C_{max} της διδύμο-αραπραζόλης, αόριστησαν κατά 77% και 43%, αντίστοιχα. Η ταχύτητα μείωσης ούρων που προκαλούν απώλεια μεταβολισμού στο CYP2D6, συγγενούς με σχιζοφρένεια, αραπραζόλη μπορεί να οδηγήσει σε υψηλότερες συγκεντρώσεις αραπραζόλης στο πλάσμα σε σύγκριση με εκείνες τις οποίες που προκαλούν καταστολή μεταβολισμού στο CYP2D6. Όταν εξετάζεται ταυτόχρονη χορήγηση καταστολής ή άλλου υγιούς αναστάτη CYP3A4 με το ABILIFY, τα ενδεδειγμένα οφέλη θα πρέπει να υποτιμολογούνται τους ενδεδειγμένους κινήσεις για την ασθένεια. Όταν υπάρχει ταυτόχρονη χορήγηση καταστολής με ABILIFY, η δόση του ABILIFY θα πρέπει να ελαττώνεται περίπου στο μισό της αντιπροσώρουμησης. Άλλοι σχιζοφρένεια του CYP3A4, όπως η προκωζόλη και οι αναστάτη προμυετίνη του HIV, μπορεί να αναμένεται ότι θα έχουν παρόμοιες ενέργειες και γ' αυτό θα πρέπει να γίνεται παρόμοια μείωση της δόσης.

Μόλις δοσική η χορήγηση αναστάτη του CYP2D6 ή 3A4, η δόση του ABILIFY θα πρέπει να αυξάνεται στο επίπεδο που ήταν πριν από την έναρξη της θεραπείας με το αναστάτη.

Όταν χρησιμοποιούνται ασθενείς αναστάτη του CYP3A4 (π.χ. ελκωδίζηση ή καταστολή) ή του CYP2D6 ταυτόχρονα με το ABILIFY, είναι πιθανόν αναμενόμενες μικρές αορίσεις των συγκεντρώσεων της αραπραζόλης.

Μετά την ταυτόχρονη χορήγηση καρβαμαζεπίνης, ενός σχιζοφρένεια CYP3A4, η γεωμετρική μέση τιμή της C_{max} και της AUC της αραπραζόλης ήταν 68% και 73% χαμηλότερες, αντίστοιχα, σε σύγκριση με αυτές των αραπραζόλης (30 mg) χορηγούμενη σε μονοθεραπεία. Παρόμοια, η γεωμετρική μέση τιμή της C_{max} και της AUC της διδύμο-αραπραζόλης μετά από συγκοπή χορήγηση με καρβαμαζεπίνη ήταν 69% και 71% χαμηλότερες, αντίστοιχα, σε σύγκριση με αυτές μετά από μονοθεραπεία με αραπραζόλη.

Η δόση του ABILIFY θα πρέπει να δοσολογείται όταν υπάρχει ταυτόχρονη χορήγηση του ABILIFY με καρβαμαζεπίνη. Άλλοι σχιζοφρένεια του CYP3A4 (όπως παραφενίλη, παραφενίλη φασοτίνη, φανοθελίνη, φανοθελίνη, εφραβέντιν, κβιπρόλη και υπεράλ (St. John's Wort)) μπορεί να αναμένεται να έχουν παρόμοιες ενέργειες και γ' αυτό θα πρέπει να γίνεται παρόμοια αορίσεις στη δόση. Μόλις δοσική η χορήγηση των σχιζοφρένεια του CYP3A4, η δοσολογία του ABILIFY θα πρέπει να μειώνεται στη συνάφιστη δόση.

Όταν συγκοπήθηκαν είτε βιολογικά είτε λάβο μαζί με αραπραζόλη, δεν υπήρξε κλινικά σημαντική αλλαγή στις συγκεντρώσεις της αραπραζόλης.

Δυνατότητα του ABILIFY να επηρεάζει άλλα φαρμακευτικά προϊόντα:

Σε κλινικές μελέτες, δοσική αραπραζόλης 30-30 mg ημερησίως, δεν είχαν σημαντική επίδραση στα μεταβολικά των κινεμάτων CYP2D6 (ακόμα) (δύομο-αραπραζόλη/3-επιπυροφωσφορική), 2C9 (βροφαζόλη), 2C19 (εταπραζόλη) και 3A4 (δωρομυετίνη). Επίσης, η αραπραζόλη και η διδύμο-αραπραζόλη δεν έδειξαν ότι μπορούν να μεταβληθούν το μεταβολισμό που γίνεται με τη μετακόληση του CYP1A2, η οποία, εκ τούτων, η αραπραζόλη είναι επίσημο να προσκοπεί με φαρμακευτικά προϊόντα κλινικά σημαντικά αλληλεπιδράσεις που πραγματοποιούνται με τη μετακόληση αυτών των ενζύμων.

Όταν η αραπραζόλη χρησιμοποιείται ταυτόχρονα με βιολογικά, λάβο ή λακτοζίνης, δεν υπήρξε κλινικά σημαντική μεταβολή στις συγκεντρώσεις του βιολογικού, του λάβο ή της λακτοζίνης.

4.6 Γεννιότητα, κίνηση και γαλουκία

Δεν έχουν πραγματοποιηθεί επηρεασίες και καλά ελεγχόμενες δοσικές με αραπραζόλη σε εγκύους γυναίκες. Έχουν αναφερθεί ανεπιθύμητες επιπτώσεις, όπως δεν αποδείχθηκε αποτελεσματικές συστατικά με την αραπραζόλη. Μελέτες σε παραμυετίνη δεν αποκάλυψαν κλινικά αναμενόμενα τοξικά αποτελέσματα. Οι ασθενείς πρέπει να ενημερώνονται ότι πρέπει να αποφευχθούν στο γαστρώ τους εάν μείνουν έγκυες ή αρθρύνονται να μείνουν έγκυες κατά τη διάρκεια της θεραπείας με αραπραζόλη. Λόγω απεικονιστικών πληροφοριών για την ασφαλή στην έμβρυα και των εργασιών που πραγματοποιούνται από τις μελέτες αναπαραγωγής σε παραμυετίνη, το φαρμακευτικό αυτό προϊόν δεν πρέπει να χρησιμοποιείται σε περίπτωση κίνησης εκτός εάν το αναμενόμενο όφελος δικαιολογεί σαφώς τον πιθανό κίνηση για το έμβρυο.

Η αραπραζόλη απεκκρίνεται στο γάλα των σχιζοφρένεια στους οποίους χρησιμοποιείται αραπραζόλη, κατά την περίοδο της γαλουκίας. Δεν είναι γνωστό εάν η αραπραζόλη απεκκρίνεται στο ανθρώπινο γάλα. Οι ασθενείς θα πρέπει να ενημερώνονται ότι δεν πρέπει να θηλάζουν εάν λαμβάνουν αραπραζόλη.

4.7 Επίδρασεις στην ικανότητα οδήγησης και χειρισμού μηχανών

Όπως με άλλα αντινευρωμικά φάρμακα, θα πρέπει να ερμηνεύεται η προσοχή των ασθενών που χειρίζονται επάνθεντες μηχανές συμπεριλαμβανομένων των αυτοκινήτων μέχρι να βελτιωθούν επηρεασίες της η αραπραζόλη δεν τους επιρροάζει δοσικώς (βλέπε παράγραφο 4.8).

4.8 Ανεπιθύμητες ενέργειες

Οι ανεπιθύμητες ανεπιθύμητες ενέργειες σε μελέτες ελεγχόμενες με εκανικό φάρμακο είναι αορίσεις και ναυτία, κάθε μια εμφανίζονται σε περισσότερο από 3% των ασθενών που έλαβαν από του στόματος αραπραζόλη.

Οι ακούσιες ανεπιθύμητες ενέργειες εμφανίζονται περισσότερο συχνά (≥ 1/100) από ό, τι με το εκανικό φάρμακο ή θεωρητικές ως ενδεδειγμένες επηρεασίες ανεπιθύμητες αντιδράσεις (*):

Η συχνότητα που αναφέρεται παρακάτω ορίζεται χρησιμοποιώντας την ακόλουθη ούριση: συχνές (≥ 1/100 έως < 1/10), και όχι συχνές (≥ 1/1.000 έως < 1/100).

Υπερβολική διαταραχή Συχνές: αναιμία, αμυγ, σπυ, θηλαστική κατάλυση*
Διαταραχή του κεντρικού νευρικού συστήματος Συχνές: καταστολή διαταραχή, αορίσεις, τρέμου, όλη, υπνηλία, καταστολή, αραπραζόλη
Οφθαλμικές διαταραχές Συχνές: θάλαση όραση
Καρδιακές διαταραχές Θηλαστική: ταχυκαρδία*
Αγγειακές διαταραχές Θηλαστική: αρτηριακή υπέρταση*
Διαταραχή του γαστρεντερικού Συχνές: διαταραχή, όρεξη, ναυτία, δυσκοιλιότητα, υπεργλυκαιμία πλάσμα
Γενικές διαταραχές και καταστάσεις της οδού χορήγησης Συχνές: αμυγ

Επιπρόσθετα συμπτώματα (EITZ)-2μ/αορίσεις – σε μια μακρά διάρκεια 52 εβδομάδων ελεγχόμενη δοσική, οι ασθενείς που έλαβαν αραπραζόλη εμφάνισαν συνολικά μικρότερη συχνότητα (25,8%) ΕΠΣ, περιλαμβανομένων παρενεργειών, αορίσεις, δυστονίας και διαταραχών σε σύγκριση με εκείνες που έλαβαν βιολογικά με αραπραζόλη (57,3%). Σε μια δοσική μακράς διάρκειας 26 εβδομάδων ελεγχόμενη με εκανικό φάρμακο, η συχνότητα εμφάνισης ΕΠΣ ήταν 19% για τους ασθενείς που έλαβαν αραπραζόλη και 31,1% για τους ασθενείς που έλαβαν το εκανικό φάρμακο. Σε μια άλλη ελεγχόμενη δοσική μακράς διάρκειας 26 εβδομάδων, η συχνότητα εμφάνισης ΕΠΣ ήταν 14,8% για τους ασθενείς που έλαβαν αραπραζόλη και 15,7% για τους ασθενείς που έλαβαν εκανικό φάρμακο. Μικροί επιποσίου επί διπολική διαταραχή τύπου I - σε μια ελεγχόμενη δοσική 12 εβδομάδων, η επίπτωση ΕΠΣ ήταν 23,5% για τους ασθενείς που έλαβαν αραπραζόλη και 53,3% για τους ασθενείς που έλαβαν αραπραζόλη. Σε μια άλλη δοσική 12 εβδομάδων, η επίπτωση ΕΠΣ ήταν 26,6% για τους ασθενείς που έλαβαν αραπραζόλη και 17,6% για αυτούς που έλαβαν λάβο. Στη μακροχρόνια φάση αντιδράσης 26 εβδομάδων μιας δοσικής ελεγχόμενης με εκανικό φάρμακο, η επίπτωση ΕΠΣ ήταν 18,2% για τους ασθενείς που έλαβαν αραπραζόλη και 15,7% για τους ασθενείς που έλαβαν εκανικό φάρμακο.

Σε ελεγχόμενες με εκανικό φάρμακο δοσικές, η επίπτωση της αορίσεις σε διπολικούς ασθενείς ήταν 12,1% με την αραπραζόλη και 3,2% με το εκανικό φάρμακο. Σε ασθενείς με σχιζοφρένεια η επίπτωση αορίσεις ήταν 6,2% με την αραπραζόλη και 3,0% με το εκανικό φάρμακο.

Δυστονία: Επίδραση της Κατηγορίας Σχηματισμού δυστονίας, παρενεργιών μη φυσιολογικών ποσοστών μείωσης ούρων, μπορεί να εμφανισθούν σε οποιαδήποτε έποση κατά τη χρήση οφάρης της Βιολογικής Σχηματισμού δυστονίας περιλαμβανομένης σπασμους των μύων του λαιμού, μολιές φάρμακο εξελισσόμενες σε σπασμους του λαιμού, δυστονία κίνησης, δυσκολία σπασμους και προσβολή της γλώσσας. Εάν οι συμπτώματα αυτά μπορεί να εμφανισθούν σε χαμηλές δόσεις, εμφανίζονται συχνότερα και με μεγαλύτερη διάρκεια με υψηλότερα δραστικότητες και σε υψηλότερες δόσεις αντινευρωμικών φαρμάκων πρώτης γενιάς. Παρατηρείται αυξημένος κίνησης οξείας δυστονίας σε άρρωστους και νεαρούς φασιακούς ομάδες.

Από τη σύγκριση μεταξύ αραπραζόλης και εκανικού φαρμάκου, όσον αφορά το ποσοστό των ασθενών που εμφάνισαν γενετικά κλινικά σημαντικές αλλαγές στις οφάρης εργασιών και λιπιδιακές παραμέτρους, δεν προέκυψε κλινικά σημαντικές διαφορές. Παρατηρήθηκαν γενικά παρόμοια και αναμενόμενα αορίσεις της CPK (Κρεατινινοφωσφοκινάση) στο 3,5% των ασθενών που έλαβαν αραπραζόλη σε σύγκριση με το 2,0% των ασθενών που έλαβαν εκανικό φάρμακο.

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