



# ECNP

European College of  
Neuropsychopharmacology

## Regional Seminar in Neuropsychopharmacology

Lithuania,  
24 - 26 of April, 2015



Local organisers of the  
seminar -  
Psychiatry Clinic,  
Lithuanian University of  
Health Sciences



## Introduction

**PROGRAMME**  
**ECNP Seminar in Neuropsychopharmacology**  
**24-26 April 2015, Lithuania**

**FRIDAY 24 APRIL 2015**

Arrival of participants and experts

19.00 Welcome and dinner

**SATURDAY 25 APRIL 2015**

08.30 – 08.45 What is the ECNP?  
 Introduction to the programme  
 Avraham Avital, Israel

09.45 – 09.30 The Neurobiology of schizophrenia: from animal model to human study  
 Avraham Avital, Israel

09.30 – 10.15 Treatment of bipolar disorder as a model of research question and design  
 Dina Popovic, Spain

10.15 – 11.00 Coffee break

11.00 – 11.45 Alzheimer's disease: prevention, diagnosis and treatment – an ongoing  
 research challenge  
 Yoram Barak, Israel

12.45 – 12.00 How to give a scientific talk?  
 Avraham Avital, Israel

12.00 – 13.00 Lunch

<b>Presentations participants in 3 groups in 3 parallel workshops</b>			
Round 1 13.00 – 14.30	<i>Avraham Avital and Virginija Adomaitiene</i> <b>Group 1</b>	<i>Yoram Barak and Benjaminas Burba</i> <b>Group 2</b>	<i>Dina Popovic and Darius Leskauskas</i> <b>Group 3</b>

14.30 – 15.00 Break

<b>Presentations participants in 3 groups in 3 parallel workshops</b>			
Round 2 15.00 – 16.30	<i>Avraham Avital and Virginija Adomaitiene</i> <b>Group 2</b>	<i>Yoram Barak and Benjaminas Burba</i> <b>Group 3</b>	<i>Dina Popovic and Darius Leskauskas</i> <b>Group 1</b>



16.30 – 17.15 Panel discussion: How to prepare a clinical research project?  
 Chair: Avraham Avital  
 Panel members: Yoram Barak and Dina Popovic

17:15 – 21.00 Social activity, group photo and dinner

**SUNDAY 26 APRIL 2015**

<b>Presentations participants in 3 groups in 3 parallel workshops</b>			
Round 3 08.30 – 10.00	<i>Avraham Avital and Virginija Adomaitiene</i>  <b>Group 3</b>	<i>Yoram Barak and Benjamins Burba</i>  <b>Group 1</b>	<i>Dina Popovic and Darius Leskauskas</i>  <b>Group 2</b>

10.00 – 10.30 Coffee break

Plenary 10.30 – 11.30	14.00 – 14.20	<b>Group 1</b> Presentation and discussion
	14.20 – 14.40	<b>Group 2</b> Presentation and discussion
	14.40 – 15.00	<b>Group 3</b> Presentation and discussion

11.30 – 12.30 How to prepare a scientific paper?  
 Avraham Avital

12.30 – 13.30 Lunch

13.30 – 13.45 Time to fill out evaluation forms and preparation of awards ceremony

13.45 – 14.00 Awards ceremony

14.00 – 14.30 Concluding remark and thanks  
 Avraham Avital and Vesta Steibliene



**Avi (Avraham) Avital** is assistant professor in the Faculty of Medicine, the Technion - Israel Institute of Technology, and Emek Medical Center. As a board member The Israeli Society for Biological Psychiatry (ISBP), Avi is also the head of the young basic science leadership program, operating as part of the ISBP activities.

Avi serves as a member of the ECNP education committee.

In his behavioural Neuroscience Lab, they study the effects of life circumstances on

emotional and cognitive processes. Specifically, the research is focused on attention processes and social cooperation. On the translational aspect, the lab studies Schizophrenia and PTSD in animal models and clinical researches. Both basic and clinical studies are nurturing and being nurtured by each other. The entire research in the lab is involving technological equipment including software and hardware that are custom-made.

### **The Neurobiology of schizophrenia: from animal model to human study**

Increased vulnerability to psychiatric disorders, such as schizophrenia, has been associated with higher levels of stress. In the early development of the central nervous system, changes in function of glutamatergic N-Methyl-D-aspartate (NMDA) receptors can possibly result in the development of psychosis, cognitive impairment and emotional dysfunction in adulthood. Thus, first we conducted a systematic mapping of the long-term effects of an acute stress protocol, applied at 11 different time-points along the developmental trajectory. Next, we exposed male rats to chronic stress and ketamine administration, both during a sensitive developmental time window. We found that the locomotor activity of both ketamine and ketamine+chronic stress groups was significantly higher compared with that of the control rats. In contrast, the locomotor activity of the chronic stress group was significantly lower compared with all other groups. Examining anhedonia in the sucrose preference test we found a significantly decreased sucrose intake in both ketamine+chronic stress and the chronic stress groups compared with the control rats. No significant differences were observed in sucrose intake between the control and the ketamine group. The object recognition test revealed that the attention to the novel object was significantly impaired in the ketamine+chronic stress group. Similarly, the ketamine+chronic stress group showed the poorest learning ability in the eight-arm radial maze, starting on the 8th day. Finally, throughout the different pre-pulse intensities, the ketamine+chronic stress group showed impaired PPI compared with all other groups. In the third aspect of the study, we utilized some of the measures in the animal model study into a clinical study.



# How to plan a research study? The Neurobiology of schizophrenia: from animal model to human study

Avi Avital, Ph.D

The Bruce Rappaport Faculty of Medicine, Technion- Israel  
Institute of Technology,  
Behavioral Neuroscience Lab

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## Outline

- Does stress=stress: Mapping the developmental trajectory for sensitive period.
- Implication of stress-sensitive period in an animal model for Schizophrenia.
- Implication of an animal model to clinical study.

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Some animal models reproduce physical stress whereas others reproduce psychological stress, either in acute or chronic paradigms. In different studies, stressors were applied at different time points during development, together with various time points of evaluation of either short- or long- term effects.



Detecting a research Question

we aimed to map the long-term effects of an acute stress applied at different developmental time-points.

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Carefully considering the comparison between rat and human age (Quinn 2005, Holder and Blaustein 2014), our results reinforce the notion that the childhood-to-adulthood transition is the hypersensitive-stress developmental risk period with long-lasting behavioural and physiological effects.

**Thus, may predispose the appearance of psychopathology in adulthood.**

One research question is leading to another (better?)

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## Outline

- Does stress=stress: Mapping the developmental trajectory for sensitive period.
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- Implication of an animal model to clinical study.

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### **Prepubertal Chronic Stress and Ketamine Administration to Rats as a Neurodevelopmental Model of Schizophrenia Symptomatology**

❖ In the early development of the central nervous system, changes in function of glutamatergic NMDA receptors can possibly result in development of psychosis, cognitive impairment and emotional dysfunction in adulthood.



The literature should support the scientific merit of the Q

**We examined the behavioral consequences of the exposure to chronic stress (postnatal days 30-60) and ketamine administration**

**(postnatal 41-45); both during the sensitive developmental time window.**

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We observed that adding ketamine to chronic stress, both occurring during a sensitive developmental time window, had an impact similar to that of positive and negative symptomology of schizophrenia.

This manifestation of symptoms succeeds in modeling rather profoundly the human cluster of schizophrenia, both negative and positive symptomology.

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**Dr Yoram Barak** is an Assistant Professor of Psychiatry at the Sackler School of Medicine, Tel-Aviv University, and Director of a Psychogeriatric Department. Trained in medicine and psychiatry at the Sackler School of Medicine. In 1993 he became an Israel Medical Scientific Council Specialist in Psychiatry, and in 2004 was awarded a Master in Health Administration from Ben-Gurion University, Beer-Sheva, Israel. A consultant for the National Multiple Sclerosis Center in Israel. He is also a special consultant on positive psychology for the Israel Defense Forces.

Past president of the Israeli Association of Old-Age Psychiatry, and is on the editorial board of the Israel Journal of Psychiatry and the Open Psychiatry Journal.

Research interests include multiple sclerosis, cancer, a wide range of psychiatric conditions (such as depression, schizophrenia, and obsessive-compulsive disorder), old-age psychiatry, and suicide. He has published extensively in these areas, and is author or co-author of over 150 peer-reviewed journal articles. His book "Preventing Alzheimer's Disease" has recently been published in the US.

### **Prevention, diagnosis and treatment of Alzheimer's disease - a challenge to basic and clinical research.**

The prevention of dementia, and particularly of Alzheimer's disease, is a major challenge for researchers and clinicians. The mixture of evidence, observations and hypotheses in the current literature is categorized into four avenues for possible preventive interventions, as suggested by the NIH State-of-the-Science Conference. The main categories are: antihypertensive medications; nutrition; cognitive engagement; and physical activity. There is, as yet, no conclusive evidence, but each category may hold promise for the prevention of dementia. The robust findings are as follows: cognitive engagement and regular physical activity may reduce the risk of Alzheimer's disease; the Mediterranean diet deserves further elucidation; and the meticulous management of risk factors, and especially hypertension, is the infrastructure of Alzheimer's disease prevention.

Extensive research over the past 20 years has provided important insights into the nature of AD and cognitive decline and the magnitude of the problem. Nevertheless, there remain important challenges in conducting research on AD. The following issues will be challenged in the near future:

- Clinico-epidemiological findings and their lack of histopathological correlates will need to bridge the gap between accumulating data from imaging and laboratory studies and the prevalent practice of diagnosing AD in the physician's office. Finding robust biomarkers that may predict future development of AD in healthy adults will be the infrastructure on which to base prevention studies.
- The 'holy trinity' of nutrition, physical exercise and cognitive engagement will be studied as a single complex entity.
- Public health campaigns to reduce rates of AD should focus on prompt treatment of hypertension and other plausible risk factors (depression and metabolic syndromes), and encouraging literacy for people of all ages. Novel research that needs to be replicated in the coming years stated that increasing education would reduce new cases of dementia by an estimated 18% in the general population over the next decade.

## **IS DEMENTIA PREVENTABLE? FOCUS ON ALZHEIMER'S DISEASE**

Barak & Aizenberg. *Expert Rev. Neurother.* 10(11) 1689-1698 (2010).  
Barak Y. "Preventing Alzheimer's Disease - Personal Responsibility." Nova Publishers. (2013).



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### BACKGROUND (1)

- The prevention of dementia, and particularly of Alzheimer's disease, is a major challenge for researchers and clinicians.
- Currently there are 1,278 clinical trials listed on ClinicalTrials.gov
- In the last 20 years not a single new molecule was approved by the FDA for Alzheimer's disease.

Prof Y Barak, MD, MHIA

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### BACKGROUND (3)

- The main categories evaluated for possible preventive interventions are:
  - Antihypertensive medications
  - Nutrition
  - Cognitive engagement
  - Physical activity.
- There is, as yet, no conclusive evidence, but each category may hold promise for the prevention of dementia.

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QUANTIFYING MODIFIABLE RISK FACTORS  
PATTERSON ET AL, CMAJ, 2008

- Based on 1719 articles on potentially modifiable risk factors for dementia, the authors concluded that for the primary prevention of AD, there is **good** evidence for controlling vascular risk factors, especially hypertension (grade A)
- **weak or insufficient** evidence for manipulation of lifestyle factors and prescribing of medications (grade C).
- The group calculated that systolic hypertension, elevated serum cholesterol and current smoking **increased** the relative risk for developing AD.
- Moderate wine consumption, high level of physical activity and education **reduced** the relative risk for AD

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ANTIHYPERTENSIVE  
MEDICATIONS (1)

- The risk factors for cardiovascular disease:
  - Hypertension
  - Diabetes
  - Obesity
  - Smoking
  - Low levels of high-density lipoprotein
  - High levels of low-density lipoprotein,
  - High concentrations of fibrinogen
  - Homocysteine
  - Alcohol misuse
  - Cardiac arrhythmia
  - Carotid atheroma
  - Hypotension
  - Transient ischemic attacks
  - Coronary artery bypass grafts
  - Angioplasty
  - Ischemic heart disease
  - Metabolic syndrome
- are also risk factors for cerebrovascular disease. These can all be considered to be risk factors for cognitive impairment and most of the dementias

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ANTIHYPERTENSIVE  
MEDICATIONS (3)

- The recent *Cochrane* review (2009) looking at lowering blood pressure in patients without prior cerebrovascular disease for the prevention of cognitive impairment and dementia introduced the issue of **timing**.
- The authors conclude that there is **no** convincing evidence from the trials identified that lowering blood pressure **in late-life** prevents the development of dementia or cognitive impairment in hypertensive patients with no apparent prior cerebrovascular disease.
- However, they remark that there were significant problems identified with analyzing the data due to the number of patients lost to follow-up and the number of placebo patients who received active treatment.

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## ANTIHYPERTENSIVE MEDICATIONS (4) THE FUTURE ?

- **Timing:**
- For each additional year of antihypertensive treatment in middle-age there is a reduction in the risk of incident dementia.
  - In one large study the risk for dementia in subjects with more than 12 years of treatment was lower than for hypertensive participants (hazard ratio for AD: 0.35; 95% CI: 0.16–0.78), and was similar to the normotensives
- **Specificity of Drugs:**
- It remains to be seen whether specific antihypertensive drugs confer differential benefits for the prevention of stroke and cognitive impairment.
  - There is some indication that antagonists of angiotensin II (ARB's) may be more effective than blood pressure control alone.

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## DIET & NUTRIENTS (5)

- Since 2004, evaluations of two different prospective cohorts have been published focusing on the **Mediterranean diet**.
- In a multiethnic community study in New York (USA), the association between adherence to the Mediterranean diet and progression from minimal cognitive impairment to AD was investigated. Compared with subjects in the lowest Mediterranean diet adherence tertile, subjects in the middle Mediterranean diet adherence tertile had 45% less risk of developing AD, while those in the highest Mediterranean diet adherence tertile had 48% less risk of developing AD.
- In France, a total of 8085 nondemented participants aged 65 years and over were included in the Three-City cohort study in Bordeaux, Dijon and Montpellier, and had at least one followup evaluation over 4 years. Daily consumption of fruits and vegetables was associated with a decreased risk of all-cause dementia.
  - Re-analysis of the Three-City cohort study in France demonstrated that greater adherence to the Mediterranean diet as a categorical variable was not significantly associated with fewer Mini-Mental Status Examination errors

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## DIET & NUTRIENTS (6)

- One of the recent concepts regarding the relationship between diet and the risk of developing AD is that of **dietary pattern (DP)** analysis.
- In contrast to the previously discussed studies that examined the impact of individual nutrients or food items on AD risk, DP analysis utilizes a broader view.
- In a large prospective study, researchers attempted to explain the inconsistencies in previous research in this field that focused on identifying single specific food ingredients as linked to either risk or protection for AD.
- Humans eat meals with complex combinations of nutrients or food items that are likely to be synergistic.

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## DIET & NUTRIENTS (7)

- Gu and colleagues (2010) focused on 63 food items that were categorized into 30 food groups based on similarities in food and nutrient composition.
- They then followed over 2,000 elderly subjects for nearly 4 years, analyzing their DPs.
- In this prospective study, they identified a DP that explained the variation of AD-related nutrients and was strongly protective against the development of AD, even after controlling for multiple covariates.
- This DP reflected a diet rich in:
  - O-3 FA
  - Omega-6 fatty acids
  - V/E
  - Folate
- Furthermore, the dietary habits of individuals adhering more to this DP were characterized as a high intake of:
  - Salad dressing
  - Nuts
  - Fish
  - Tomatoes
  - Poultry
  - Cruciferous vegetables
  - Fruits
  - Dark and green leafy vegetables
- Low intake of:
  - High-fat dairy
  - Red meat
  - Organ meat
  - Butter.

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## COGNITIVE ENGAGEMENT (2)

- Valenzuela and colleagues (2008) systematically reviewed recent evidence linking mental activity and dementia risk, which commonly invokes 'brain reserve' as the mediating construct.
- They conducted a meta-analysis of 22 studies based on data from over 29,000 individuals.
- After adjustment for covariates, significant protective risk ratios for individuals with higher mental activity in the range of 0.41–0.67 were demonstrated.
- In addition, a number of these studies point to dose-dependent effects.

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## COGNITIVE ENGAGEMENT (3)

- The Advanced Cognitive Training for Independent and Vital Elderly (ACTIVE, (2002)) study has been highly influential in reformulating thinking in this area.
- This trial examined the effect of ten weekly sessions of cognitive training on 2,832 healthy older individuals.
- The first round of follow-up at 2 years found, as expected, that performance in the trained domain was maintained at a superior level to that in the control group.
- However, at this stage no evidence of transfer of gain to other domains was observed.
- The reported 5-year follow-up to the ACTIVE study (2006) examined not only change in cognitive performance, but also in the instrumental activities of daily living.
- Reasoning training more than any other type specifically protected against functional decline over this extended period.
- This is, therefore, the first major clinical trial to show that a discrete 'dose' of directed mental activity can produce reliable long-term benefits on a general functional outcome, one that happens to form a core part of the dementia diagnosis

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PHYSICAL ACTIVITY (2)

"A SOUND MIND IN A SOUND BODY IS A SHORT BUT FULL DESCRIPTION OF A HAPPY STATE IN THIS WORLD."  
JOHN LOCKE, ENGLISH EMPIRICIST PHILOSOPHER (1632-1704)

- Additional support for the role of physical exercise from a conceptually different view point came from the identification of elderly individuals who consistently demonstrate intact cognition.
- Over 2,500 elders were examined at baseline and prospectively after 3, 5 and 8 years.
- Over 8 years, 30% of the participants maintained cognitive function.
- These maintainers had a unique profile:
  - Weekly moderate or vigorous exercise (OR: 1.31)
  - Not smoking (OR: 1.84)
- were significantly associated with being a maintainer and not a decliner.

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PHYSICAL ACTIVITY (3)

"A SOUND MIND IN A SOUND BODY IS A SHORT BUT FULL DESCRIPTION OF A HAPPY STATE IN THIS WORLD."  
JOHN LOCKE, ENGLISH EMPIRICIST PHILOSOPHER (1632-1704)

- Recently, a series of studies focusing on physical exercise and its effects on cognition were published in the January 2010 issue of *The Annals of Internal Medicine*.
- These studies provide additional details and rigor to previous publications.
- Two of the studies were randomized trials and the other two were prospective cohort studies of large numbers of people.
- In brief, an analysis of 13,500 participants in the Nurses' Health Study found that the likelihood of 'successful survival' (living past 70 years of age in general good physical and mental health) was nearly doubled for women who had been in the highest quintile of overall physical activity 10-15 years earlier, than for the most sedentary participants.
  - When initially evaluated at baseline in 1986, these successful survivors walked more hours per week versus other survivors, and their overall weekly hours of physical activity levels were greater.

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SOCIAL ISOLATION IN OLD AGE HAS BEEN ASSOCIATED WITH RISK OF DEVELOPING DEMENTIA

- Wilson (Rush Alzheimer's Disease Center, Chicago) and his fellow researchers aimed to test the hypothesis that loneliness is associated with increased risk of Alzheimer's disease.
- They recruited 823 older persons free of dementia assessing their level of loneliness with a structured rating scale every year for five years.
- The risk of Alzheimer's disease was more than doubled in lonely persons.
- Loneliness did not change significantly over the study period so that lonely elderly in essence remained lonely for many years.

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## PURPOSE IN LIFE

- A dictionary definition of purpose will incorporate the following elements: " The reason for which something exists or is done, made, used. An intended or desired result; end; **aim**; goal. Determination; resoluteness."
- It is hard to imagine a purpose in life, especially for older adults, that does not involve a social aspect.
- Indeed, when researchers looked at the purpose in life of nearly 1,000 people over a seven-year period those with a high score on the purpose in life measure were approximately 2.4 times more likely to remain free of Alzheimer's disease.

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## The NEW ENGLAND JOURNAL of MEDICINE NEW INSIGHTS INTO THE DEMENTIA EPIDEMIC LARSON ET AL, NOV 2013

- Although demographics will drive an increase in the number of dementia cases, recent reports — generally based on population- based community studies or survey data — point to declining age-specific prevalence or incidence rates among people born later in the first half of the 20<sup>th</sup> century.
- We believe these reports are intriguing and inform our understanding of potentially modifiable factors that contribute to the epidemic of this common and often tragic condition.

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Selected Recent Studies of the Dementia Epidemic.

Study	Outcome	Data Source	Key Findings	Factors
Manton et al. (United States) <sup>1</sup>	Prevalence of severe cognitive impairment	National long-term care survey interviews, 1982–1999	Decline in dementia prevalence among people ≥65 yr of age (5.7% to 2.9%)	Higher educational level, decline in stroke incidence
Langa et al. (United States) <sup>2</sup>	Prevalence of cognitive impairment	Ongoing population-based survey of people ≥51 yr of age	Prevalence of cognitive impairment among people ≥70 yr of age (12.2% in 1993 vs. 8.7% in 2002)	Higher educational level, combination of medical, lifestyle, demographic, and social factors
Schrijvers et al. (Rotterdam) <sup>3</sup>	Incidence of dementia	Population-based cohort ≥55 yr of age in 1990, extended in 2000	Incidence rate ratios (6.56 per 1000 person-yr in 1990 vs. 4.92 per 1000 person-yr in 2000)	Higher educational level, reduction in vascular risk, decline in stroke incidence
Qiu et al. (Stockholm) <sup>4</sup>	Prevalence of DSM-III-R dementia <sup>a</sup>	Cross-sectional survey of people ≥75 yr of age, 1987–1989 and 2001–2004	Age- and sex-standardized dementia prevalence (17.5% in 1987–1989 vs. 17.9% in 2001–2004); lower hazard ratio for death in later cohort suggests decreased dementia incidence	Favorable changes in risk factors, especially vascular risk; healthier lifestyles
Matthews et al. (England) <sup>†</sup>	Prevalence of dementia in 3 regions	Survey interviews of people ≥65 yr of age, 1988–1994 (in CFAS I) and 2008–2011 (in CFAS II)	Dementia prevalence (8.3% in CFAS I vs. 6.5% in CFAS II)	Higher educational level, better prevention of vascular disease

<sup>a</sup> In the study by Qiu et al., dementia was diagnosed according to the criteria provided in the *Diagnostic and Statistical Manual of Mental Disorders*, third edition, revised (DSM-III-R).

<sup>†</sup> CFAS denotes Cognitive Function and Ageing Study.

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- For now, the evidence supports the theory that better education and greater economic well-being enhance life expectancy and reduce the risk of late-life dementias in people who survive to old age.
- The results also suggest that controlling vascular and other risk factors during midlife and early old age has unexpected benefits.
- That is, individual risk-factor control may provide substantial public health benefits if it leads to lower rates of late-life dementias.

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**Dr. Dina Popovic** has received her degree in Medicine, cum laude, from the University of Bologna (Italy), has specialized in Psychiatry and was awarded a PhD with European label 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 Prof. Eduard Vieta. Her scientific interests and publications primarily include Mood Disorders, Psychotic Disorders and Dual Pathology, with a special focus on clinical, pharmacological, genetic and neurophysiological aspects.

### **Treatment of bipolar disorder as a model of research question and design**

Maintenance therapy is a critical part of treatment of Bipolar Disorder. Clinical practice requires deciding upon the most appropriate treatment for each patient, which is often challenging. Clinical markers for response to first-line therapy will be examined during this presentation. Another recurring issue in clinical practice is the difficulty in translating the results of research to therapeutic

decision-making. For this reason, our group has developed Polarity Index, a metric 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, which indicates the relative prophylactic efficacy profile of existing treatments, and its external validity was examined in a naturalistic study. The Polarity Index provides a measure of how much antidepressant versus antimanic an intervention is in bipolar disorder prophylaxis. The available evidence on how to choose the most effective treatment for each patient with bipolar disorder, in the era of personalized medicine, will be critically examined.

# Treatment of bipolar disorder as a model of research question and design

Dina Popović, MD, PhD

Lithuania, 24-26.4.2015

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

popovic.dina@gmail.com



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## Bipolar Disorder Relapse Rates:

+ 40%-60% after I lifetime episode

~50% of patients experience II mood episode within a year of recovery<sup>1</sup>

Inadequate treatment



↑ Relapse rates<sup>2</sup>



↑ Vulnerability to utter episodes<sup>5</sup>

↓ Response to Therapy<sup>1</sup>

↓ Psychosocial Functioning<sup>3,4</sup>

↑ Morbidity and mortality<sup>3</sup>

<sup>1</sup>Tohen, 2006; <sup>2</sup>Prien, 1973; <sup>3</sup>Martinez-Aran, 2007; <sup>4</sup>Angst, 2002; <sup>5</sup>Suppes,

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## Relapse prevention is a critical objective of treatment in bipolar disorder

+ Evidence of ability to reduce risk of relapse is an important consideration in choice of maintenance therapy<sup>1</sup>

○ What?

○ To whom?

○ Why (Effectiveness)?

<sup>1</sup> Goodwin et al., 2009

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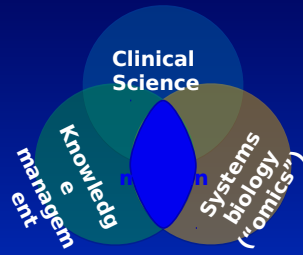
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## PERSONALIZED MEDICINE



"Coupling established clinical-pathological indexes with state-of-the-art molecular profiling to create diagnostic, prognostic, and therapeutic strategies precisely tailored to each patient's requirements"

*NEJM 2012; January 19*

Personalized; Predictive; Preventive;  
Participatory: **Precision Medicine**

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## Personalized management of bipolar disorder

STRATIFYING BY:

- × Psychopathological markers
  - × Genetics
  - × Epigenetics
  - × Endophenotypes: neuropsychology (neurocognition) neuroimaging; neuroeconomy
  - × Staging (life-span staging; functional staging)
  - × Stratifying by predominant polarity
  - × Stratifying by comorbidity
  - × Stratifying by mixed features
- Vieta 2014; Hasler and Wolf, 2015; Schumann et al, 2013*

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Mood Stabilizers and Atypical Antipsychotics

## CLINICAL MARKERS OF RESPONSE



Salar de Atacama desert, Chile

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## Clinical markers of response to Lithium

- + Episodic clinical course with complete interepisodic remission. Mania-depression pattern
- + Low comorbidity
- + No rapid cycling
- + Better efficacy in euphoric vs. dysphoric mania
- + Bipolar family history with similar course of illness in the offsprings

*Grof, 2010; Perugi et al., 2001; Vieta et al., 2005; Kleindienst, 2005; Rybakowski, 2013*

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## Clinical markers of response to Lithium

- + Later age at onset
- + Low hospitalization rate
- + Hyperthymic personality (Negative correlation with cyclothymic and anxious temperament)
- + Preservation of cognitive functions and lack of cognitive disorganization

*Rybakowski, 2012, 2013*

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## Clinical factors of response to Carbamazepine

- + CBZ > LI
- psychiatric comorbidity
  - mood-incongruent delusions
- EEG pathology, structural brain changes
- + Bipolar I: Li > CBZ
- + Bipolar II: Li = CBZ

## Clinical factors of response to Valproate

- + Atypical features ?
- + More manic or mixed episodes VPA > LI

*Kleindienst and Greil, 2000; Zarate et al., 1995; Rybakowsky et al., 2013*

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## Clinical factors of response to Lamotrigine

- † Chronicity of course, rapid cycling
- † Comorbidity with anxiety disorders (panic disorder) and substance abuse
- † Family history of schizoaffective disorder, recurrent depression, panic disorder

## Clinical factors of response to Clozapine

- † Severe manic episodes with psychomotor agitation and psychotic symptoms of great intensity

Passmore, 2003; Zarate et al., 1995

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## Clinical markers related with response to treatment: state specifiers

- † Mixed episode: Olanzapine, Asenapine<sup>1,2</sup>
- † Agitation (in mania): Asenapine, loxapine, aripiprazole<sup>3-7</sup>
- † High suicidal risk: lithium<sup>7</sup>

Grunze&Azorin 2014 (1); Kruger 2005 (2); Brown, 2013 (3); Gonzalez 2013 (4); Kwentus 2012 (5); McIntyre 2009 (6); Popovic (in press); Baldessarini 2006 (7)

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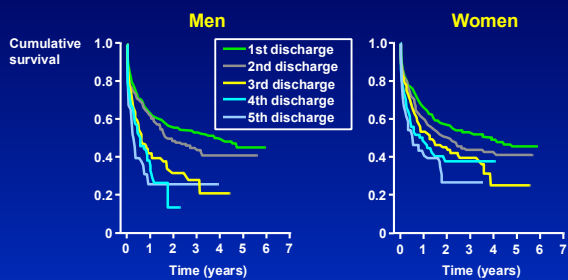
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## Potential importance of early treatment

Rate of relapse increases with number of previous episodes



Bipolar affective disorder: rate of relapse leading to hospitalisation (after being discharged for 23 days) following first, second, third, fourth and fifth discharges

Kessing et al 2004

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**redominant Polarity**



Novak Djokovic



Bayern Munich

Manic Polarity	Depressive Polarity
Substance Misuse	Suicide Attempts
Psychotic Symptoms	Seasonal Pattern
Hospitalizations	Melancholic features
Cognitive	

*Colom, 2006; Rosa, 2008; Martinez-Aran, 2007; Goikolea, 2007.<sup>39</sup>*

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**BAP guidelines consider PP in choice of maintenance treatment for bipolar disorder**

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    graph TD
      A[Acute episode resolved  
Euthymia  
Bipolar I disorder] --> B[Ensure education, information, and adherence]
      B --> C[Consider maintenance therapy]
      C --> D[If mania predominates]
      C --> E[If depression predominates]
      D --> F[Protect against manic pole]
      E --> G[Protect against depressive pole]
      F --> H[Consider LI (initial monotherapy), ARI, QTP, VAL, or OLZ]
      G --> I[Consider QTP or LAM]
  
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LI, lithium; ARI, aripiprazole; QTP, quetiapine; VAL, valproate; OLZ, olanzapine; LAM, lamotrigine

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**Maintenance treatment choice: pharmacologic considerations**

- + Efficacy: NNT
- + Safety : NNH
- + Tolerability
- + Efficacy for each pole: Polarity Index
- + Combination of drugs: synergies, tolerability

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EFFECTIVENE  
SS

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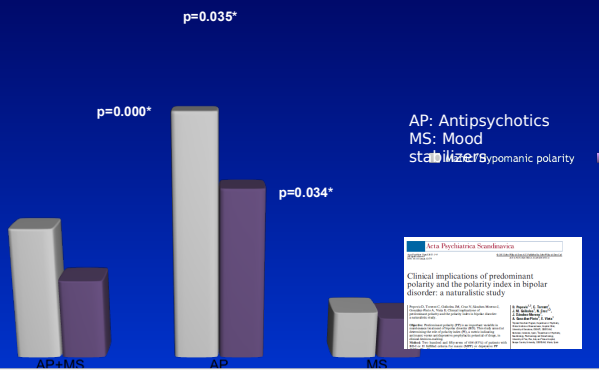
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# Polarity Index in maintenance treatment of BD



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## CONCLUSIONS

- Bipolar disorder is a complex condition that can be effectively managed under the paradigm of personalized medicine
- Patients can be stratified according to biological, clinical, and staging features
- The polarity index, a measure of the relative prophylactic efficacy of drugs, may be a useful tool to guide maintenance treatment according to predominant polarity
- Early intervention and maintenance treatment are crucial for prevention of recurrences and their neurobiological consequences

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Thank you for your attention and THANKS to the team!!!



- Eduard Vieta
- Francesc Colom
- José M. Goikolea
- Anabel Martínez-Arán
- Carla Torrent
- Marc Valentí
- María Reinares
- Olga Solé
- Mar Bonnin
- José Sánchez-Moreno
- Imma Torres
- Andrea Murru
- Isabella Pacchiarotti
- Iria Grande
- Diego Hidalgo
- Ester Jimenez

popovic.dina@gmail.com

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### **Prof. Virginija Adomaitienė**

Prof. Virginija Adomaitienė is the head of Psychiatry Department in Lithuanian University of Health Sciences, professor at Psychiatry Department in Lithuanian University of Health Sciences. She is also a Chief Psychiatrist of Republic of Lithuania under Ministry of health, member of the board of Lithuanian Association of Psychiatrists, member of RAN Health EU, member of American Psychiatric Association, member of WHO working group in psychiatry (European region). Virginija

Adomaitienė is also a chief editor of the journal "Psichiatrijos aktualijos" ("Actual issues in Psychiatry"), a member of editorial board in five scientific journals; reviewer of journal „Medicina“(„Medicine“). Main area of scientific interest - optimization of diagnostics and treatment of affective disorders and acute psychosis (schizophrenia).



### **Prof. Benjaminas Burba**

Prof. Benjaminas Burba is a professor at the Psychiatry Department in Lithuanian University of Health Sciences, head of Urgent Psychiatry unit at Psychiatry Department in Lithuanian University of Health Sciences, former head of Psychiatry Department in Lithuanian University of Health Sciences. He is also a member of American Psychiatric Association, member of the European Union of Medical Specialists, consultant of Lithuanian Health Care Minister

in psychiatry. Main area of scientific interest is optimization of diagnostics and treatment of schizophrenia.



### **Assoc. prof. Darius Leskauskas**

Assoc. prof. Darius Leskauskas is an assoc. professor at Psychiatry Department in Lithuanian University of Health sciences, consultant of Health Care Minister (child-adolescent psychiatry), chairman of Kaunas Society for the Studies of Psychoanalysis and Psychotherapy, delegate in the International Federation of Psychoanalytic Societies. He is also an expert and teacher in EU financed project „Training of professional and social skills, oriented

to individual needs of young persons convicted without imprisonment and released from the places of detention“. Assoc. prof. Darius Leskauskas took part in development of methodologies „Diagnostic and treatment of disorder of activity and attention“ and „Use of opioids for the treatment and analgesia for children and adolescents abusing psychoactive substances“ confirmed by Health Care Ministry of Lithuanian Republic.

## **ABSTRACTS**

**Alekna, Vytautas**

**Lithuanian University of Health Sciences, Lithuania**

**The childbirth as a trigger of the first episode of psychosis: a case report.**

Postnatal psychosis affects one to two in every 1000 new mothers and is almost always a mood disorder accompanied by loss of contact with reality, hearing voices and seeing things (hallucinations), having strange beliefs (delusions), severe thought disturbance, and abnormal behaviour. It can be a life-threatening condition with an abrupt onset within a month of childbirth.

Case description: We report a 35-year-old woman with the first episode of psychosis. After 8 weeks of childbirth, she developed an acute onset illness, characterized by delusion of persecution, fearfulness, and decreased sleep. There was positive family history of psychosis. This case raises questions about the difficulties of differential diagnosis of postnatal psychosis, acute onset of schizophrenia and acute polymorphic psychotic disorder with symptoms of schizophrenia, also difficulties of treatment.

**Audaraitė, Viltė**

**Lithuanian University of Health Sciences, Lithuania**

**Relationship between glycemic control and cognitive function in patients with type 2 diabetes**

Type 2 diabetes is associated with cognitive decline. However, the relationship between glycaemia control and cognitive functions remains unclear.

The aim of the study was to evaluate the socio-demographic, clinical and metabolic characteristics and cognitive function in hospitalized patients with type 2 diabetes.

Methods: 150 patients hospitalized in LUHS Hospital, Kaunas Clinics Endocrinology clinic will be evaluated by their socio-demographic indicators, body composition, diabetes' somatic complications, glycemic control and other laboratory tests, used medicational treatment. Cognitive function will be evaluated using Bender-Gesthalt test, number repeating test (WAIS-III) and ordinary methods.

**Baublytė, Gintarė**

**Lithuanian University of Health Sciences, Lithuania**

**Associations between mental health symptoms severity and psoriasis clinical characteristics**

Psoriasis is a chronic inflammatory systemic disease that frequently impair mental health: depression, anxiety, sleep disturbances can manifest.

The aim of this study is to determine associations between psoriasis clinical characteristics and patients' mental health symptoms severity.

Objectives: To evaluate the clinical characteristics of psoriasis in patients

To evaluate the severity of anxiety, depression symptoms, sleep problems and to determine the associations with psoriasis clinical characteristics.

Methods: patients with psoriasis diagnosis will fill out anonymous questionnaires to subjectively evaluate the severity of anxiety and depression (HAD scale) and Pittsburgh sleep evaluation questionnaire and a self-made questionnaire to determine psoriasis' clinical characteristics.

**Berentaitė, Beata**

**Characteristics of manifestation of anger among university students in Kaunas**

**Lithuanian University of Health Sciences, Lithuania**

Introduction: anger is a normal emotional reaction to maltreatment, offence, bullying or injustice. However, anger outbursts frequently occur in young age and inevitably interferes with both somatic and mental functions. Nonetheless this issue still lacks attention from mental health care specialists.

Aims: to evaluate prevalence and specific characteristics of anger occurrence among

The Humanities students in KTU (Kaunas University of Technology) and VDU (Vytautas Magnus University) as well as natural sciences students in LSMU (Lithuanian University of Health Sciences).

Methods: an anonymous survey was given to 468 participants. The survey consisted of two parts: socio-demographic questionnaire and a subjective assessment scale for anger occurrence rate and severity evaluation. Lithuanian Bioethics Committee approval BL 2013.206.

**Buneviciute, Juste**  
**University of Florida, USA**  
**Serotonin and Irritable Bowel Syndrome**

Sixteen year old female presented to the outpatient child and adolescent psychiatry clinic complaining of anxiety, depression and abdominal pain exacerbated by stressful events. Past medical history is significant for abdominal surgeries and significant social stressors. The patient was examined by gastroenterologists yielding no evident pathology suggesting psychiatric causes of her abdominal discomfort. We are examining possible SSRI treatment effects on IBS symptoms.

**Burkauskas, Julius**  
**Lithuanian University of Health Sciences, Lithuania**  
**Mental fatigue is associated with impaired cognitive functioning after acute cardiac events**

Our study aims to investigate if cognitive functioning of coronary artery disease (CAD) patients is associated with fatigue. In sum, 722 (73% men; mean age  $58 \pm 9$  years) CAD patients were evaluated for socio-demographic, clinical characteristics, depressive and fatigue symptoms. Cognitive tests battery included MMSE, Digit Span, Digit Symbol, Trail Making tests. Multivariate regression models were created, and after adjusting for socio-demographic, clinical and depressive symptoms characteristics, mental fatigue remained associated with MMSE ( $\beta = -.081, p < .04$ ), Forward recall of digits ( $\beta = -.094, p < .02$ ), digit pairs recalled correctly ( $\beta = -.105, p < .01$ ), Trail Making Test B ( $\beta = .110, p < .01$ ) and B-A ( $\beta = .103, p < .01$ ) scores. Overall, mental fatigue worsens CAD patients' cognitive functions.

**Čėsnaite, Eglė**  
**Lithuanian University of Health Sciences, Lithuania**  
**Psychotic symptoms manifestation at Parkinson's disease**

Parkinson's disease (PD) in elderly is mainly associated with motor symptoms. However non-motor symptoms occupy significant part of PD and their prevalence is 20%-60%; visual hallucinations are especially frequent. Manifestation of psychosis is 3% - 4% in early stages of PD. More than 50% of existing psychiatric disorders are not identified in clinical practice. In order to identify psychotic symptoms clinicians need to reject other mental disorders, whose clinical picture can be similar: severe depression with psychosis, dementia, delirium and other organic diseases including brain tumors, circulatory disorders, endocrinal disturbances and medications' impact.

Detecting of the psychosis allows choosing an effective strategy of psychopharmacologic treatment. A positive clinical effect was achieved after the treatment with antipsychotic drug which improved patient's mental state and didn't impair parkinsonism. I am presenting clinical case of a woman (58), whose PD manifested with psychotic symptoms, so evaluation of her mental and neurological state was handicap as well as differential diagnosis. The aim of clinical case report was to highlight the importance of careful attention to differential diagnosis of non-motor symptoms.

**Charkavliuk, Artiom**  
**Lithuanian University of Health Sciences, Lithuania**  
**Psychiatric histories and treatment in patients with brain tumors:**

## **association with psychological distress symptoms and health related quality of life**

Objective In neuro-oncologic patients to evaluate histories of psychiatric disorders and psychotropic medication treatment, and their relation to anxiety and depression symptom severity and HRQoL.

Methods Within 3 days of admission for brain surgery patients were interviewed for past histories of psychiatric disorders, current use of psychotropic medication and were administered self-rating HADS and SF-36.

Results Patients with past histories of psychiatric disorders scored significantly higher on the HADS-D ( $p < 0,001$ ) and HADS-A ( $p = 0,02$ ). Patients currently taking psychotropic medication scored significantly higher on the HADS-D ( $p = 0,02$ ) and HADS-A ( $p = 0,03$ ). Past histories of mental disorders and current use of psychotropic medication were associated with worse HRQoL.

Conclusions Past histories of mental disorders and current use of psychotropic medication are associated with greater depressive and anxiety symptom severity and with worse HRQoL.

## **Diečkutė, Jurgita**

**Lithuanian University of Health Sciences, Lithuania**

### **Associations between video games and anger management, sexism, homophobia**

Video games have been blamed for promoting violence and hate towards minorities. Whether there's an actual connection between games and behavior of people who play them is still unclear.

The aim of this study is to determine possible connections between various video game genres, the time people spend playing them and anger management, sexism and homophobia.

Methods: two groups of people will be interviewed: people who do and people who do not play video games daily. Use socio demographic information, Clinical Anger Scale (CAS), New Modern Sexism Scale and The Homophobia Scale to determine whether there's a connection between games played and real life behavior.

## **Diržius, Edgaras**

**Lithuanian University of Health Sciences, Lithuania**

### **Benzodiazepine (BDZ) drugs effect on the Oppel-Kundt illusion manifestation for patients with schizophrenia spectrum disorders (SSD)**

Primary objective of a study was to investigate Oppel-Kundt illusion manifestation peculiarities for patients with SSD and compare it with mentally healthy volunteers perception. Additional objective was to investigate relationships depending on BDZ drugs usage. Oppel-Kundt illusion is presented in darkened laboratory where other visual stimuli are eliminated. Different BDZ drugs were converted to diazepam equivalent. Results of study showed that Oppel-Kundt illusion tended to manifest weaker for patients with SSD and for those who received BDZ.

## **Domarkaitė, Brigita**

**Lithuanian University of Health Sciences, Lithuania**

### **Evaluation of acute effectiveness of Dance fitness training for depressive patients.**

Studies investigating the effectiveness of various physical training interventions alleviating severe mental diseases, such as Alzheimer's dementia, schizophrenia or major depressive disorder indicate that physical exercise can relieve symptoms of depression, psychosis and dementia.

Hypothesis: One intensive 30min dance fitness training can improve patient's subjective assessed mood, reduce sleepiness, improve motivation.

Object: 30 depressed female, who are treated in psychiatric department.

Methods: Patients will be evaluated with socio-demographic scale, beck's depression

scale and visual analogue scales (mood, sleepiness, motivation) before and after the intensive 30min dance fitness training.

**Dudutis, Andrius**

**Lithuanian University of Health Sciences, Lithuania**

**Risk factors of rehospitalisation among psychotic patients**

Background: In order to improve quality of psychotic patients life, causes that worsening symptoms should be identified.

Aim: To detect and evaluate risk factors of rehospitalisation among psychotic inpatients.

Objectives:

- 1) To detect and evaluate socio-demographic characteristics of hospitalised psychotic inpatients;
- 2) To evaluate the association between rehospitalisation and used antipsychotic medication;
- 3) To evaluate the association between medication adherence and rehospitalisation;
- 4) To assess how rehospitalisation rate depend on different risk factors.

Methods: Interview psychotic inpatient in Kaunas district using authors created questionnaire, medication adherence rating scale (MARS), modified Simpson-Angus scale (MSAS). Review and collect data from patients' medical documentation.

**Gaidamovič, Rima**

**Vilnius University, Lithuania**

**The influence of social and demographic factors, depression and anxiety on patient satisfaction with primary care**

Background & Aim. Patient`s characteristics affect formation of his view on satisfaction and expectations of primary health care (PHC) services. One of the most important modern health care strategic objectives is to activate individuals, groups and organizations in the implementation of various health improvement programs, and to promote dialogue between health care providers and patients. The aim of our study will be to identify and analyse the factors, that influence patient`s satisfaction with PHC (social, demographic factors and mental disorders like depression and anxiety) and find out whether it is possible to predict the patients' satisfaction with PHC in accordance with this factors and assess the tendencies of this impact.

Methods. We are planning to survey up to 2000 patients from Lithuania in our study using self-addressed Patient satisfaction Questionnaire Short-Form (PSQ-18), HAD questionnaire and Charlson Comorbidity Index Questionnaire. The patients' data will include age, gender, nationality, education and place of residence as well as the registration with the certain PHC service.

**Kalaušytė, Gabija**

**Lithuanian University of Health Sciences, Lithuania**

**Relationship between mental state symptoms severity and disease activity markers' level in patients with rheumatoid arthritis**

Background: Rheumatoid arthritis (RA) is a chronic, systemic inflammatory disease. Depression and other psychiatric disorders can be associated with increased inflammatory markers' level which is important in RA pathogenesis.

The aim is to establish relationship between mental state symptoms severity and disease activity in patients with RA.

The objectives :

To determine depression and anxiety symptoms severity in patients in remission of RA and in acute phase of RA

To compare objective and subjective evaluation of mental distress among patients with RA

To determine association between mental disorders and factors that could aggravate the course of RA

Methods: We are planning to examine patients who are going under biological therapy both- in remission and in acute phase. RA activity will be evaluated using the DAS28 scale. Psychiatrist instruments MINI, HAD, authors' questionnaire.

**Karuzaitė, Ruta**

**Lithuanian University of Health Sciences, Lithuania**

**Negative anger consequences for general functioning among psychiatric patients.**

Reasons of anger are usually much more sophisticated and are not necessary associated to conflict and words, said during it. Anger is a character trait that may influence the psychiatric patient's clinical condition. The aim of this research was to evaluate manifestation of anger severity of patients, who has various mental disorders.

There were randomly elected 50 patients, who were hospitalized in psychiatric hospital. The questionnaire consists of socio-demographic, subjective anger and HAD scales.

**Krasauskiene, Jurgita**

**Lithuanian University of Health Sciences, Lithuania**

**Sleep quality and psychoemotional state of mothers who prepare their kids for operation**

We hypothesized that children health may have influence to parents psychoemotional state and sleep quality. The aim of the study was to compare sleep quality and psychoemotional state between mothers who kids were waiting for operation and who kids were not. Our findings indicate that sleep quality indexes are significant worse and it can induce depressivity of those mothers who have children waiting for operation in near future versus healthy children mothers.

**Kuzmickaitė, Juratė**

**Lithuanian University of Health Sciences, Lithuania**

**ADHD prevalence and peculiarity among prisoners with an impulsive crime history**

In the 2014 Conference of the young scientists and researchers presented study "Children' acute abdominal pain differential diagnostic in emergency room". Graduated LSMU (Lithuanian university of health sciences) and got physician certificate at 2014 06 27. Attended the XVIII international forum of psychoanalysis at 2014 September. Currently studying at the LSMU, first year child and adolescent psychiatry resident. Attention-deficit hyperactivity disorder (ADHD) is a developmental disorder, which is associated with a number of psychiatric conditions, mostly antisocial personality disorder, substance use and crime. The aims of the present study is to investigate the prevalence and peculiarity of ADHD among prisoners with an impulsive crime history, evaluate symptoms' manifestation at a young age and nowadays and see what assistance was available earlier. The study is going to be performed at the Pravieniškės Correction House-Open Prison Colony by using the questionnaire.

**Laurinaitis, Rokas**

**Lithuanian University of Health Sciences, Lithuania**

**What does it take to make your patients happy?**

Background: Recognizing patient-doctor relationship and satisfaction are important components of assessing quality of care.

Objectives: The primary objective is to investigate whether patient's satisfaction and evaluation of doctor-patient relationship is related to their gender, age, demographic and socioeconomic status, psychiatric diagnosis, duration of mental disorder and duration hospitalisation. Secondary objective is to compare the dynamics of first and second evaluations

Method: Patients hospitalized in Lithuanian University of Health Sciences Psychiatry



clinic will be provided with: Patient Doctor Relationship Questionnaire (PDRQ-9), hospitalized patients' satisfaction questionnaire in psychiatry (SATISPSY-22), and other questions on third and the last day of their admission.

**Leleikienė, Aistė**

**Lithuanian University of Health Sciences, Lithuania**

**Motor control functions among depressed patients**

Motor retardation is a common feature of major depressive disorder having potential prognostic and etiopathological significance.

The aim of this research was to evaluate features of motor control functions among patients with depression and ascertain whether it depends on severity of this disease. In this research participated 30 patients, who had diagnosis of depression. The patients were tested by analyzer of dynamic parameters of human hand movements (DPA-1). Motor functions were analysed in maximal velocity, simple reaction time and speed-accuracy (included reaction time) tasks. Results of this research will be presented during ECNP seminar.

**Liaugaudaitė, Vilma**

**Lithuanian University of Health Sciences, Lithuania**

**Mental disorders, suicidal ideation and general medical conditions in primary care**

Aim: To evaluate an association between mental disorders, suicidal ideation and general medical conditions in primary care patients.

Methods: A sample of 998 patients from four urban primary care (PC) clinics was assessed for current mental disorders using the MINI International Neuropsychiatric Interview. All participants were asked to fill in the HAD Scale during the same visit.

Results: The main reason to visit a PC physician was cardiovascular disease in 314 (31.5%). The major depressive episode (MDE) were independently associated with suicidal ideation (OR=3.7; 2.2-6.6), whereas general anxiety disorder (GAD) was associated with diabetes (OR=3.49; 1.35-9.19), with suicidal ideation (OR=3.26; 1.89-5.6), and with cardiovascular disease (OR=1.53; 1.10-2.15). Greater adjusted odds for suicidal ideation were higher among patients with GAD (OR=1.98; 1.01-3.88), with MDE (OR=2.49; 1.26-4.94) and with diabetes (OR=4.36; 1.41-15.15). In the final analysis odds for suicidal ideation were evaluated according tertile of HADS anxiety score. Odds of suicidal ideation were observed in the tertile of patients with the highest anxiety score (9-21) (OR=2.62; 1.24-5.55), compared to patients with lower tertile (0-4).

Conclusion: Presence of suicidal ideation is associated with major depressive episode and general anxiety disorder in PC patients, while presence of cardiovascular disorders and presence of diabetes are associated with general anxiety disorder only.

**Matviekaitė, Justina**

**Lithuanian University of Health Sciences, Lithuania**

**The influence of abuse in home environment to women's mental health**

Background: A lot of data shows that physical, sexual and psychological abuse in home environment might be the cause of women's mental disorders such as depression, post-traumatic stress, anxiety, sleep, sexual disorders, which negatively effects the quality of life.

The aim of our research is to evaluate the influence of abuse in home environment to women's mental health.

Methods and objectives: All the women who applied to non-profit organizations who provide help to the victims of physical, psychological and sexual abuse in home environment and agreed to participate in the research will be questioned. We plan to survey around 150 women. The relation of abuse in home environment and the level of depression and anxiety, presence of symptoms of sleep, sexual and posttraumatic stress disorders will be evaluated. A questionnaire was composed to define the type of

abuse, relations will be valued using Hamilton anxiety and depression scale, hospital Anxiety and depression scale and Female Sexual Function Index.

**Melynyte, Sigita**

**Vilnius University, Lithuania**

Electrophysiological measures (EEG) are promising biomarkers in neuropsychiatry. Evoked/event-related potentials are being investigated for diagnostic, prognostic and therapeutic outcomes of psychiatric disorders such as schizophrenia. Recent studies revealed that there are gender differences in expression of psychosis in schizophrenia. However, there is little known about gender effect in widely used EEG measures (such as, auditory ERP, proprioceptive evoked potentials, etc.). My aim is to look deeper whether differences in male and female exist in potential electrophysiological biomarkers.

**Mickeviciute, Dalia Elena**

**The Public Institution Vilniaus Centro Poliklinika (outpatient clinic), Lithuania  
Children in residential foster care: experience that is transferred through generations**

Children living in residential foster care facilities face to many unfavourable factors that can have dramatic influence to their subsequent life. Insufficient mirroring that children receive from their often inconsistent, abusing and unresponsive caregivers and insecure attachment are some of those factors. It is found that the prevalence of disorganised attachment style among children in residential foster care is much higher than among normative group – as high as 66 % versus 15 %, respectively (van Ijzendoorn et al., 1999). Adults who have an experience of residential foster care in their childhood are lacking of emotional regulation, mentalization and parenting skills, that's why they are not able to create a secure attachment relationship with their children. Insecure attachment style and insufficient mirroring are transferred to their children, and they grow with the similar experience of insufficient mirroring and insecure attachment or attachment disorders (like reactive or disinhibited) as their parents did. In the presentation we will show three cases of families in which parents have the experience of residential foster care.

**Mikutytė, Viltė**

**Lithuanian University of Health Sciences, Lithuania**

**MIXED PSYCHIATRIC SYMPTOMS AS MANIFESTATION OF MULTIPLE SCLEROSIS**

Objective: to report a case of multiple sclerosis presenting in mixed psychiatric symptoms.

Case report: we report the case of 48-year-old female who was diagnosed with major depression 6 years and PTSD 3 years prior to neurological consultation. She was treated with AD and low doses of AP, but only partial symptom control was achieved. During psychiatric assessment she self-reported high level of anxiety and depression symptoms and also expressed anger outbursts, increased hostility, impulsivity and unsteady gait. Neurological assessment showed dissymmetric lower extremity spasticity, ataxia and urine incontinence. Neuroimaging revealed multiple lesions characteristic of MS.

Conclusion: neurological assessment, including neuroimaging should be considered in cases of unusual presentation of psychiatric disorder and non/partial response to treatment.

**Muzikevičiūtė, Ingrida**

**Lithuanian University of Health Sciences, Lithuania**

**Association of anxiety and depression symptoms with clinical symptoms' control in patients with type 2 diabetes**

Background: anxiety and depression symptoms (ADS) are common in patients with type 2 diabetes (T2D). Their intensity might influence general effect on T2D

symptoms' control and long term treatment results.

The aim is to evaluate association of ADS with clinical symptoms' control in patients with T2D.

The objectives: to evaluate the socio-demographic, clinical and metabolic characteristics, ADS in patients with T2D; to evaluate association of ADS with clinical and metabolic characteristics in patients with T2D;

Methods: 150 patients hospitalized in LSMUL Endocrinology clinic with T2D will be evaluated by their socio-demographic indicators, body mass index, diabetes' complications, glycaemic control and other laboratory tests, medications used. ADS will be assessed using Beck's depression and anxiety scale.

**Pajėdienė, Evelina**

**Lithuanian University of Health Sciences, Lithuania**

**Sleep disorders in patients with ischemic or haemorrhagic stroke**

Scientific sleep data, especially based on polysomnography analysis, in the group of stroke patients are scarce. The aim of this ongoing study is to investigate the parameters of sleep disorders among patients with ischemic or haemorrhagic stroke, as well as to evaluate their relations to patients' neurological and functional status. Patients hospitalised within acute period of stroke are provided with questionnaires about sleep disorders, emotional status, neurological status and stroke outcomes. Patients with sleep complaints are investigated further with all night polisomnography, nocturnal electroencefalography and non-invasive intracranial pulse wave monitoring. These diagnostic procedures are repeated in a postacute period of stroke in order to analyse the dynamics of sleep disorders.

**Pakutkaitė, Indrė Kotryna**

**Vilnius University, Lithuania**

**Prevalence of Body Dysmorphic Disorder (BDD) in Lithuanian cosmetic surgery setting**

Background: BDD is defined as preoccupation with one or more slight or non-existing defects in one's appearance. Most of individuals with BDD seek cosmetic treatment yet it doesn't reduce BDD symptoms. BDD isn't included in ICD-10 and isn't well known in Lithuania. Previously a few researches were done in Lithuania, but they have limitations.

Concept of the research: 1. Validate Lithuanian version of Cosmetic Procedure Screening Scale (COPS-LT); 2. Use COPS-LT to measure BDD in cosmetic surgery patients; 3. Use a screening tool for eating disorders; 4. Psychiatrist's evaluation of patients scoring  $40 \leq$  in COPS-LT.

**Pociūtė, Ieva**

**Lithuanian University of Health Sciences, Lithuania**

**Significance of art therapy in treatment of psychiatric disorders**

Aim: to establish how useful art therapy is found among psychiatric patients during their healing process.

Objectives:

1. To evaluate the opinions of psychiatric patients depending on their place of treatment.
2. To compare patient's opinion about the usefulness of art therapy in their healing process due to their sex, education and diagnosis.
3. To determine the association between patients diagnosis and place of treatment with their opinion about the use of art therapy during their healing process.
4. To establish the association between patients sex and place of treatment with their opinion about the use of art therapy during their healing process.

Methods: Participants - 131 patient aged 18 or over, who had following diagnosis: schizophrenia, depression, organic mental disorder, neurosis and provided written informed consent to take part in the study and fill anonymous questionnaire.

**Prišmontas, Evaldas**

**Lithuanian University of Health Sciences, Lithuania**

**The link between sense of coherence, quality of life and clinical characteristics of patients with type 2 diabetes**

Background: Due to the slow course and probable long term complications of type 2 diabetes (T2D) it can influence quality of patients' life significantly. Sense of coherence is a factor that might affect quality of life, too. The associations between sense of coherence, quality of life and clinical characteristics of patients with T2D are still unexplored.

The aim of the study is to evaluate link between sense of coherence, quality of life and clinical characteristics of patients with T2D.

Objectives and methods of the study:

To investigate the patients with T2D treated in LSMUL KK Endocrinology clinic:

To test their sense of coherence using 13-item Sense of Coherence Questionnaire.

To test their quality of life using Quality of Life Questionnaire 15D.

To collect data on their socio-demographic, clinical characteristics.

**Puzinas, Paulius**

**Lithuanian University of Health Sciences, Lithuania**

**Prevalence of smell impairments and substantia nigra hyperechogenicity in Lithuanians, born in 1964**

Objectives: to determine the prevalence of smell impairments and changes in substantia nigra (SN) echogenicity on transcranial sonography (TCS) in healthy adult population and to evaluate the link between the two.

Methods: 295 subjects - 59% women and 41% men, born in 1964 (aged  $48,42 \pm 0,04$  at the moment of the study) , participating in a population study "Connection between genetic and lifestyle risk factors for chronic disease risks since childhood" were screened for smell impairments, using Sniffin' Sticks 12 test, as well as for SN echogenicity changes using TCS. They all underwent neurological examination with focus on extrapyramidal signs and none was found to have PD at the moment of the study.

Results: sufficient acoustic temporal bone window allowed complete TCS results to be obtained in 90.5% of cases. In 6.1% of examined cases unilateral or bilateral enlargement of SN area (hyperechogenicity) was detected (using the cutoff value of  $0.26 \text{ cm}^2$ ). In additional 18.8% of cases SN area was found to be marginal unilaterally or bilaterally ( $0.20\text{-}0.26 \text{ cm}^2$ ). 24.1% of participants had at least mild hiposmia. Changes in SN echogenicity correlated positively with smell impairments ( $p < 0.05$ ). 9.8% of participants were found to have both - smell and SN echogenicity impairments.

Conclusions: almost  $\frac{1}{4}$  of the studied population was found to have at least mild smell impairments. In similar proportion of cases hyperechogenicity of SN was detected. A positive correlation between those symptoms was observed.

**Rabcevičiūtė, Laura**

**Lithuanian University of Health Sciences, Lithuania**

**The tactics of long-term treatment of the first psychotic episode in childhood and adolescence in natural setting**

So far there have been very few studies evaluating the effectiveness of atypical antipsychotic drugs in children and adolescents.

The aim of the study was to evaluate pharmacological treatment provided in inpatient and outpatient settings as well as factors determining the tactics of pharmacotherapy in the treatment of the first psychotic episode in childhood and adolescence. Methods. We conducted a retrospective analysis of the course of treatment of children and adolescents with the first psychotic episode treated in the Psychiatry Clinic of the Lithuanian University of Health Sciences during 2003-2007. The sample consisted on

63 subjects, 28 of which were females, 35 - males. The data was evaluated in two stages: at stage one, inpatient treatment was evaluated, at stage two, evaluation of outpatient treatment was conducted. We analyzed prescription of antipsychotic medications and possible reasons for switching from one therapy to another. The study showed that over the course of the treatment, typical antipsychotic preparations were replaced with atypical ones both while in hospital and during outpatient treatment.

**Rybakova, Ina**

**Lithuanian University of Health Sciences, Lithuania**

**Sexual function of Lithuanian University of Health Sciences (LUHS) students and its correlation with personality traits**

Abstract. The theory of personality traits is based on a premise that personality traits are constant and that they influence entire personal behavior, including sexual behavior [1].

Aim. To establish a correlation between LUHS students personality traits and sexual function.

Methods. LUHS third year students were participants of this research. Questionnaires were used to evaluate: personality traits, male and female sexual function, social-demographical factors and sexual experience.

Results. There were 81 participants: women - 67,7 pct.; men - 32,3 pct. Dominant personality dimensions: women - consciousness - 61,1 pct., men - openness to experience - 20 pct. Both male and female sexual function was good. Maximum FSFI estimators were noticed in women with dominant agreeableness and consciousness dimensions - 33,35 points, maximal BMSFI estimators - in men with dominant extraversion dimension - 40,3 points.

Conclusions. Correlation between personality traits and current sexual function was not established.

**Šaulevičiūtė, Joana**

**Lithuanian University of Health Sciences, Lithuania**

**Prevalence of social isolation and psychiatric stigma in mental health**

Background: Social isolation and psychiatric stigmatization are both a cause and an effect of mental distress. This is a vicious circle that leads to worsening of treatment results and more frequent relapses.

Aim of this study is to evaluate the prevalence of social isolation and psychiatric stigma amongst mental health patients.

Objects of the study are: 1) to value the manifestation of social isolation amongst mental health patients, depending on their length of the morbidity, gender and education; 2) estimate the content of psychiatric stigma amongst our respondents.

Methods of the study would include an original survey of 10 questions and UCLA Loneliness Scale (Russell, D. (1996), (Version 3)).

At the moment the data are being collected, but a part of it may be analyzed and presented during the seminar to reflect further research.

**Šeikienė, Rūta**

**Lithuanian University of Health Sciences, Lithuania**

**Forms of gambling (FOG) and the properties of their connection with gambling addiction.**

The gambling dependence is a serious burden to addicted person and his family. Since gambling legalization in Lithuania no studies did objectively evaluate the risk of being addicted to gambling among gamblers. Still it is not known what proportion of players may have a higher risk of being addicted to gambling.

The aim of the study: to evaluate which form of gambling is most harmful.

Objectives: to evaluate the prevalence of gambling addiction; to evaluate influence of FOG characteristics.

The study will be performed in the three major cities in Lithuania. To participate in the study will be invited 150 persons who will fill ours questionnaire and questionnaires: South Oaks Gambling Screen and Problem Gambling Severity Index.

**Spietinytė, Angelina**

**Lithuanian University of Health Sciences, Lithuania**

**Association between anxiety, depression symptoms severity, suicidal ideations and testosterone concentration among hospitalized patients with personality disorders**

Aim. To establish association between anxiety, depression symptoms severity, suicidal ideations and testosterone concentration among hospitalized patients with personality disorders.

Goals.

To evaluate anxiety and depression symptoms severity among hospitalized patients with personality disorders.

To evaluate suicidal ideations among hospitalized patients with personality disorders.

To establish free-testosterone levels among hospitalized patients with personality disorders.

To establish association of free-testosterone levels, anxiety, depression symptoms and suicidal behavior among hospitalized patients with personality disorders.

Methods. All male and female patients with personality disorders hospitalized in Psychiatry Clinic, LUHS will be invited to participate in this study. Hospital anxiety and depression scale (HADS) will be used to establish anxiety and depression symptoms severity. Columbia – suicide severity rating scale (C-SSRS) will be used to establish symptoms of suicidal ideations. Laboratory tests will be used to establish serum total testosterone and sex hormone binding globuline concentrations.

**Survilaite, Aurelija**

**Lithuanian University of Health Sciences, Lithuania**

**Anxiety and depression symptoms' severity among women with stress urinary incontinence.**

Background: The prevalence of urinary incontinence (UI) in women varies from 25-45%, while ranges of stress urinary incontinence (SUI) reaches up to 78% of women with UI. SUI has a significant impact on the physical, psychological and socio-economic aspects. It could cause the appearance of frustration, anxiety and depression symptoms.

The aim of the study is to evaluate severity of anxiety and depressive symptoms among women with symptoms of SUI in comparison to healthy controls.

Methods: 150 women over 35 years with the diagnosis of SUI before surgical treatment and 150 healthy controls (those who came for prophylactic inspection to a family physician and had no specific complaints about urinary incontinence) were interviewed by using the self-administered questionnaire containing socio-demographic and clinical characteristics of UI, Hospital Anxiety and Depression Scale (HADS) for evaluation severity of anxiety and depression symptoms.

**Tikniūtė, Goda**

**Lithuanian University of Health Sciences, Lithuania**

**Changes of Hypothalamus Axis' Endocrine Function in Patients with Acute Psychosis**

Background: It is known that acute psychosis is associated with changes in endocrine function of hypothalamus axis. Nevertheless the association of the changes in endocrine function of hypothalamus axis and acute psychosis is still unexplored.

The aim is to evaluate changes of endocrine function in patients with acute psychosis (AP).

The objectives are:

To assess concentrations of thyroid axis hormones, prolactin, testosterone in patients

with AP and to evaluate their relation with intensity of AP symptoms and antipsychotics used for AP treatment.

To assess concentration of thyroid axis hormones, prolactin and testosterone in patients with AP and to evaluate their changes in the process of AP treatment with antipsychotics.

Methods: 80 patients with acute psychosis treated in our clinic will be enrolled. The patients will be interviewed using socio-demographic questionnaire. Psychic status will be assessed using Brief Psychiatric Rating Scale and Clinical Global Impression-Improvement scale. Concentrations of thyroid axis hormones, prolactin, testosterone and SHBG in venous blood will be measured on the first and the last day of hospital treatment.

### **Tubelytė, Eglė**

#### **Cultural and other aspects of FASD prevention and identification in Lithuania Lithuanian University of Health Sciences, Lithuania**

Introduction: According to official statistical data of 2007, 14.3% women aged 25-34 use alcohol in risky and harmful levels. What is more, health care specialists in Lithuania in some cases still follow obsolete traditions to recommend alcohol beverages for pregnant women. It may cause even higher alcohol consumption in this group.

Aims: to test physicians' habits to recommend alcohol for pregnant women, evaluate the frequency of FASD diagnoses in Lithuania and to compare with epidemiologic results in other countries.

Methods: a pilot survey was given to 74 general practitioners and obstetricians – gynaecologists to evaluate attitudes towards alcohol use of pregnant women and for 27 neonatologists for evaluating abilities to diagnose FASD.

### **Vagonis, Aringas**

#### **Lithuanian University of Health Sciences, Lithuania**

#### **EXPERIENCE OF SEXUAL HARASSMENT DURING RESIDENCY TRAINING: PREVALENCE, SOCIO-DEMOGRAPHIC CHARACTERISTICS**

Background: According to literature, experiences of sexual harassment (SH) during residency have a negative impact on residents' emotional status, mental health and life quality. Unfortunately it remains largely unreported.

Objectives: To examine the prevalence of SH during residency training, the impact of residents' socio-demographic characteristics on SH during residency training.

Methods: The sample consisted of 193 residents of HLUHS. A self-report survey was used to assess socio-demographic characteristics (sex, age, marital status, residency program and year of studying). Sexual Experiences Questionnaire was used to identify the frequency of gender harassment, unwanted sexual attention, and sexual coercion.

### **Vaičiulytė, Austėja**

#### **Lithuanian University of Health Sciences, Lithuania**

#### **Manifestation of psychotic symptoms in Parkinson's disease**

Background. Parkinson's disease (PD) is mainly known as a disease associated with motor symptoms. However psychosis and other mental disorders are also common in PD. The rate of manifestation of psychosis is 3% - 4% in early stages of PD. Detecting psychosis in early stages allows to choose an effective strategy of psychopharmacologic treatment. Results of research should be useful for accentuating the importance of careful attention to differential diagnosis of non-motor symptoms in PD.

The aim of research is to evaluate psychosis manifestation among patients with PD interface with PD clinical manifestation.

Objectives and method. The relation of PD clinical manifestation, medication impact, psychic status and intensity of psychotic symptoms will be evaluated. We plan to survey around 100 patients, who will be divided into two equal groups with presence

or absence of psychotic symptoms during PD. The patients will be interviewed using socio-demographic questionnaire and mental state will be evaluated using Brief Psychiatric Rating Scale.

**Vasčekiene, Diana**

**Lithuanian University of Health Sciences, Lithuania**

**Relationship between alexithymia and externalizing and internalizing disorders in late adolescent (15-18 yr)**

Alexithymia is prevalent in approximately 10% of the general population and is known to be comorbid with a number of psychiatric conditions.

The aim of the study is to assess and compare the prevalence of alexithymia among patients with externalizing and internalizing disorders in late adolescent.

Methods: using the Toronto Alexithymia Scale, the Hospital Anxiety and Depression Scale, Youth Self Report, we investigate the prevalence of alexithymia among adolescents aged 15 to 18 years, with mentioned disorders, who were hospitalized in The Hospital of Lithuanian University of Health Sciences (LUHS) Kauno klinikos, sector of Child and adolescents psychiatry, and randomly selected control group.

**Vasilevskytė, Dovilė**

**Lithuanian University of Health Sciences, Lithuania**

**Masked depression: progressive somatization as a response to weight loss**

Masked depression is an endogenous or psychogenic depressive state where somatic symptoms are present to the exclusion of the emotional ones while the mental symptoms are only present in the background.

Case Description: The patient is a 44 year-old male, treated in LSMUL KK Gastroenterology - Psychiatry clinic 2014-12-30 - 2014-01-16. During the time patient complained weight loss from 80 kg to 42 kg, pain behind the sternum, knee pain, left shoulder pain, non-healing ulcers in mouth, head area and on the hands, general weakness, patient's muscular layer decreased. Tests and conclusions of the consultants stated that there are no significant changes. But the main problem facing the clinician in masked depression is that of diagnosis.

**Vėbraitė, Birutė**

**Lithuanian University of Health Sciences, Lithuania**

**Dysfunction of pelvic organs in multiple sclerosis**

Dysfunction of pelvic organs: urinary, bowel and sexual, (DPO) is one of most debilitating disorders in multiple sclerosis (MS). An anonymous survey was conveyed among 51 MS patients in order to determine the prevalence of DPO as well as its influence on general disability and quality of life. Participants received an original questionnaire of DPO and health related quality of life questionnaire SF-36v2, general disability was assessed according to EDSS scale by qualified neurologist. Results showed that DPO is more common among patients with progressive MS and correlates with general disability as well as deteriorated quality of life.

**Vėlavičienė, Dalia**

**Lithuanian University of Health Sciences, Lithuania**

**Correlation in early diagnostic and opportune correction with rates of social integration and life quality of child autism**

Aims: to value correlation in early diagnostic and opportune correction with rates of social integration and life quality of child autism

Relevance: autism symptoms manifest in first three years of child, it can cause the child severe disability if not diagnosed in a timely fashion. The early diagnostic of this disorder gives opportunity to improve social interaction and life quality.

Prospective results:

The results of research would let to make better the early diagnostic and the opportune correction of autism.



**Zailskas, Donatas**

**Time perception in patients suffering from epilepsy**

**Lithuanian University of Health Sciences, Lithuania**

In 1935 Abe S. and Abe M. discovered a psychological dependence of time upon space and named it the S-effect, which existence in the presence of different stimuli was later confirmed by a number of authors. In 1953 Cohen, Hansel and Sylvester coined the term for this phenomenon, called the Kappa effect. In this presentation I attempt to explain the sensory factors influencing the subjective perception of time, explore the small number of studies in the field of epilepsy and time perception as well as future attempts to test changes in time perception on epilepsy patients for diagnostic purposes.