Introduction

ECNP is an independent, non-governmental, scientific association dedicated to the science and treatment of disorders of the brain. Founded in 1987, its goal is to bring together scientists and clinicians to facilitate information-sharing and spur new discoveries.
The objective of ECNP is to serve the public good by stimulating high-quality experimental and clinical research and education in applied and translational neuroscience. It seeks to do this by:

- Co-ordinating and promoting scientific activities and consistently high-quality standards between countries in Europe.
- Bringing together all those involved in or interested in the scientific study of applied and translational neuroscience by arranging scientific meetings, seminars, and study groups.
- Providing guidance and information to the public on matters relevant to the field.
- Providing a format for the co-ordination and for development of common standards in Europe.

To fulfil this aim ECNP organises, amongst others, yearly the ECNP Congress that comprises of 6 plenary lectures, 28 symposia and 7 educational update sessions. The annual meeting attracts more than 6,000 participants and is considered to be the largest event in neuropsychopharmacology in Europe.

ECNP organises seminars, as the one you have been invited to participate, in areas of Europe where there are less opportunities for psychiatrists to participate in international meetings. Interaction is the keyword at these meetings and they have proved very successful both for the participants and for the experts. During the seminar we discuss clinical and research issues that the local organisers feel that are needed to be covered and using these topics as a model for teaching how to ask a research question and how to plan an effective study. Leading ECNP experts that are also talented speakers will facilitate mutual discussion in small groups allowing you to present your abstract and get feedback from your colleagues and local mentors.

So far, ECNP has organised this meeting in Poland, Estonia, Turkey, Bulgaria, Slovak Republic, Hungary, Czech Republic, Moldova, Romania, Greece, Russia, Latvia and recently in Macedonia, Armenia, Georgia, Lithuania and Serbia. In some countries we have organised it more than once.
ECNP also supports on an annual basis participation of 100 junior scientists and researchers in an intensive three-day Workshop in Nice. Other educational activities of ECNP include the journal *European Neuropsychopharmacology* that promotes scientific knowledge along with publishing consensus statements. In addition, since 2009 ECNP organises a summer school of neuropsychopharmacology in Oxford, since 2012 a school of child and adolescent neuropsychopharmacology in Venice and since 2013 a school of old age neuropsychopharmacology in Venice. In November we start a workshop on methodology and clinical research in Barcelona in 2015.

This year we start with a pilot of a new initiative, The ECNP Research Internship. This is a new collaborative initiative of ECNP and the ECNP Junior Member Advisory Panel (JMAP) that aims to provide short-term research internship opportunities for junior researchers. Senior researchers from the list of ECNP Fellow members offer unpaid 2 week exploring research internship in their institutions.

Please see the ECNP website (**www.ecnp.eu)** where you can find information about all the above initiatives and additional information and look for the activity that fits you.

I look forward to a fruitful and inspiring meeting in Odessa, Ukraine!

Gil Zalsman
Chair ECNP Educational Committee

Programme
ECNP Seminar in Neuropsychopharmacology
9-11 October 2015, Ukraine

FRIDAY 9 OCTOBER 2015

Arrival of participants and experts

19.00 Welcome and dinner

SATURDAY 10 OCTOBER 2015

09.00 – 09.15 What is ECNP?
Introductions to the programme
Speaker: Joseph Zohar, Israel

09.15 – 10.00 Neuroscience Based Nomenclature (NbN) – Can neuroscience change an outdated psychotropic classification?
Speaker: Joseph Zohar, Israel

10.00 – 10.45 Major depression as a model for research plan and design
Speaker: Rene Hurlemann, Germany

10.45 – 11.30 Coffee break

11.30 – 12.15 Animal model for PTSD as a model for research plan and design
Speaker: Avi Avital, Israel

12.15 – 12.30 How to give a talk
Speaker: Joseph Zohar, Israel

12.30 – 13.30 Lunch

Presentation participants in 3 groups in 3 parallel workshops			
Round 1 13.30 – 15.00	*Joseph Zohar* *and* *Volodymyr Korostiy* **Group 1**	*Rene Hurlemann* *and* *Nataliya Maruta* **Group 2**	*Avi Avital* *and* *Vsevolod Rozanov* **Group 3**

15.00 – 15.15 Break

15.15 – 15.45 Panel discussion: How to prepare a clinical research project and how to publish it
Chair: Joseph Zohar, Israel
Panel members: Rene Hurlemann / Avi Avital

16:00 – 21.00 Social activity, group photo and dinner

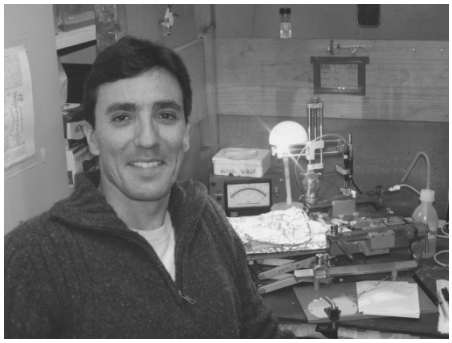
SUNDAY 11 OCTOBER 2015

Presentations participants in 3 groups in 3 parallel workshops
(Experts rotate between the groups)

Presentations participants in 3 groups in 3 parallel workshops *(Experts rotate between the groups)*			
Round 2 08.30 – 10.00	*Joseph Zohar* *and* *Volodymyr Korostiy* **Group 1**	*Rene Hurlemann* *and* *Nataliya Maruta* **Group 2**	*Avi Avital* *and* *Vsevolod Rozanov* **Group 3**
10.00 – 10.30 Coffee Break			
Round 3 10.30 – 12.00	*Joseph Zohar* *and* *Volodymyr Korostiy* **Group 1**	*Rene Hurlemann* *and* *Nataliya Maruta* **Group 2**	*Avi Avital* *and* *Vsevolod Rozanov* **Group 3**
12.00 – 14.00 Lunch and preparation for plenary session			
Plenary 14.00 – 15.00	14.00 – 14.20	**Group 1** Presentation	
	14.20 – 14.40	**Group 2** Presentation	
	14.40 – 15.00	**Group 3** Presentation	

15.00 – 15.30 Break and faculty selection of awards winners. Completion of feedback forms

15.30 – 16.00 Awards ceremony, concluding remark and thanks
Joseph Zohar & Vsevolod Rozanov



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.

Dr. Zohar is a professor of Psychiatry at the Sackler Faculty of Medicine, Tel Aviv University. Dr. Zohar is the immediate past-President of the European College of Neuropsychopharmacology (ECNP), Currently the Chair of the Expert Platform, Chair of the Israeli consortium on PTSD, and Chair of the Israeli Brain Council. Dr. Zohar is a board member for the International Master in Affective Neuroscience, a visiting Professor at the University of Maastricht (The Nederland's), and an immediate past-Chair of the International College of Obsessive-Compulsive Spectrum Disorders (ICOCS). Dr. Zohar has been honored with several awards, including the Fogarty International Research Fellowship Award (1984), the A.E. Bennet Award for Clinical Research (1986 and 2002), ECNP Neuroscience Award for Clinical Research (1998), and the WFSBP Award for Excellence in Education (2001). Dr. Zohar has authored more than 300 papers, has written or edited 16 books focusing on refractory depression, OCD post-traumatic stress disorder and Psychotropics, and was the founding associate editor of CNS Spectrums and of the World Journal of Biological Psychiatry. Dr. Zohar is considered a world expert on OCD and posttraumatic stress disorder, and has recently received funding from the American National Institute of Mental Health (NIMH) to explore secondary prevention of PTSD. Dr. Zohar was advisor to DSM – IV and 5 in OCD and co-chair of Sub-Workgroup preparing the research agenda on OCD for DSM-5. Currently Dr. Zohar Chair an international collaboration (joint venture of ECNP, ACNP, CINP and AsCINP) on developing new nomenclature for CNS drugs, Chair the Expert Platform on Mental Health focus on Depression along with being a Director at the Chaim Sheba Medical Center, Israel.

Rene Hurlemann completed his M.D. at the University of Bonn, Germany, in 2001, with a thesis on the timing of intracranial memory-related ERPs in temporal lobe epilepsy. Later, he focused on emotion-memory interactions and received his M.Sc. (2006) and Ph.D. (2007) from Maastricht University for this work. Since completing his residency in 2008 he has served as attending physician for the Department of Psychiatry (Chair: Professor Wolfgang Maier) at the University of Bonn and carried on full-time clinical responsibilities running inpatient and outpatient Psychiatry clinics, 24/7 emergency call and resident teaching duties. In 2015, he has been appointed Vice Chair of the Department of Psychiatry. In addition to his clinical efforts, he is committed to research in the field of psychiatric neuroscience, with a methodological emphasis on

pharmacological fMRI and MRI-navigated TMS. He is principle investigator of the "Neuromodulation of Emotion (NEMO)" research group, for which he obtained a 1.3 million Euro starting grant by the Ministry of Innovation, Science, Research, and Technology of the German State of North-Rhine Westfalia (MIWFT) and the University of Bonn. His current research is focused on developing cutting-edge experimental therapies for anxiety, autism, depression, and (prodromal) schizophrenia. He has won several awards and stipends including the 2008 Gerd-Huber Award for advances in neuroimaging of schizophrenia and the 2013 Helen C. Levitt Endowed Annual Visiting Professorship at the University of Iowa Carver College of Medicine. Furthermore, he is Visiting Associate in Psychology at Caltech (California Institute of Technology), where he studies the causes and consequences of human amygdala dysfunction. In his present position as Associate Professor and Head of the Medical Psychology Division, he is dedicated to teaching undergraduate medical and neuroscience students. In addition, he supports and supervises undergraduate and graduate students undertaking their thesis research towards B.Sc., M.D., M.Sc. and Ph.D. degrees in his lab. In 2010, he was named Associate Director of the Master in Affective Neuroscience joint degree program at the Universities of Maastricht and Florence. Moreover, he serves as ad-hoc referee for >10 different international public funding agencies and >50 different international peer-reviewed journals. He is member of several professional societies including the American College of Neuropsychopharmacology (ACNP), the European College of Neuropsychopharmacology (ECNP).

Prof. Volodymyr Korostiy is a professor of Psychiatry, Narcology and Medical Psychology at the Chair of Kharkiv National Medical University, Kharkiv, Ukraine. His scientific research: psychosomatics, psychosocial and biorhythmological correlates of mental disorders in the course of arterial hypertension; emotional disorders of young people in the course of psychosomatic diseases; cognitive disorders of people with organic and symptomatic mental diseases, prevention of suicidal behaviour of patients with depressive disorders, psychoeducational elaborations for patients and their relatives (depression, dementia, schizophrenia, epilepsy, posttraumatic stress disorder), diagnostics, treatment and prevention of posttraumatic stress disorder in current environment in Ukraine. Prof. Volodymyr Korostiy has authored more than 200 papers, has written or edited 6 books focusing on organic and symptomatic mental diseases, depression, epilepsy, post-traumatic stress disorder and suicidal behaviour. Regular member of European Psychiatric Association (EPA) and International Stress and Behavior Society (ISBS), International and Ukrainian Antiepileptic League, board member The Ukrainian Society of psychiatrists and neurologists.

Prof. Nataliya MARUTA is the Deputy Director on Scientific Research of the "Institute of Neurology, Psychiatry and Narcology of the National Academy of Medical Sciences of Ukraine" State Institution, the Head of the Department of Neuroses and Borderline Conditions of this Institute, the Vice President of the Scientific Society of Neurologists, Psychiatrists and Narcologists of Ukraine, Doctor of Medical Sciences, Professor, the Honored Scientist of Ukraine, Academician of the Academy of Sciences of Higher Education. Prof. Maruta is an author of 449 scientific publications including 12 scientific books, 6 handbooks, 12 inventions, and 25 methodical guidelines. The main fields of Prof. N.O. Maruta's researches cover problems of epidemiology, neurobiology, pathomorphosis, cross-cultural peculiarities, new methods for therapy and prevention of mental and behavioral disorders. Prof. N.O. Maruta's clinical investigations are directed to study contemporary manifestations and mechanisms of formation of neurotic disorders, the first episode of psychosis, bipolar and depressive disorders, and a suicidal behavior. Prof. N.O. Maruta is an author and coauthor of

many draft documents and resolutions for the Ministry of Health of Ukraine, the National Academy of Sciences of Ukraine, the Supreme Council of Ukraine, the Cabinet of Ministers of Ukraine, etc. Prof. N.O. Maruta is highly appreciated as a scientist, practitioner, organizer of science, and educator. She is the Head of the Expert Problem Commission of the Ministry of Health of Ukraine and the National Academy of Medical Sciences of Ukraine "Psychiatry and Medical Psychology", the Member of the Expert Council of the State Attestation Commission of the Ministry of Education and Science of Ukraine on Psychiatry, the Member of the Central Formular Committee of the Ministry of Health of Ukraine, the Deputy Chief Editor of the "Ukrainian Bulletin of Psychoneurology" Journal and the Member of the Editorial Boards of other 5 scientific journals. Prof. N.O. Maruta makes great contribution to development of Ukrainian psychiatry in terms of training of specialists of the highest qualification for departments of higher educational institutions of Ukraine and appropriate health care institutions. She has formed her scientific school and trained 21 Doctors of Philosophy in medicine and 10 Doctors of Medical Sciences, who are working throughout all Ukraine and are maintaining steady scientific ties with their tutor. Now under Prof. N.O. Maruta's scientific supervision 6 theses for PhD degree and 3 theses for Doctor of Sciences degree are being carried out. Prof. N.O. Maruta is greatly involved into international cooperations in the framework of the World Psychiatric Association (WPA) and the European Psychiatric Association (EPA). She cooperates creatively with scientific and practical medical institutions of Poland, Greece, Germany, Finland, and Israel as well as participates actively in work of World and European congresses and conferences. Prof. N.O. Maruta is awarded with Certificates of Merit of the Supreme Council of Ukraine, the Ministry of Health of Ukraine, the National Academy of Medical Sciences of Ukraine, the Kharkiv Regional State Administration, decorations of the Ministry of Internal Affairs of Ukraine etc.

Professor Vsevolod A. Rozanov graduated from Odessa Pirogov Medical School and received his PhD and Dr.Med.Sci. in medical neurochemistry in Kiev and Moscow. After that he has been specializing in neurology in Kharkov Medical School, in mental health promotion and suicide prevention in Karolinska Institute (Stockholm, Sweden). In 1999 he started collaboration with Prof. Danuta Wasserman from Karolinska Institute and in 2000 became director of the Ukrainian part of the Swedish-Ukrainian genetic project on suicidal behavior. Within this project more than 1000 families with probands who attempted suicide were interviewed and genotyped. Results of the project have largely contributed to understanding genetic mechanisms of suicidal behavior in relation to stress vulnerability. In 2000 Prof. Rozanov has also started collaboration with the European Network on Suicide Attempts Monitoring and Prevention (lead by Wurzburg University) and headed the corresponding Collaborating Centre in the focal point Odessa. The obtained results have contributed to socio-demographic characteristics of suicidal behavior in Eastern Europe. In 2008 Prof. Rozanov has established a collaborative Suicide Research and Prevention Centre under the Odessa National Mechnikov University and Human Ecological Health. He is one of the authors and editor of the Ukrainian National Strategy in Suicide Prevention. He was invited as an expert by UNICEF to help solving the problem of high suicide rate among adolescents in Kazakhstan. Prof. Rozanov has many times been an organizer of suicide prevention conferences and invited speaker at WPA, EPA, IASP and other organizations meetings and congresses. Currently Prof. Vsevolod Rozanov is delivering lectures in several disciplines, including suicidology, neurochemistry, neuropsychopharmacology and behavioral genetics. He is a supervisor of several post-graduates and masters' degree students and author and co-author of more than 300 published articles, reviews, books for students and chapters in the international textbooks. Prof. Rozanov is the member of editorial board of several journals, member of IASP, EPA, head of the section of military psychiatry of WPA, member of several local professional societies.

Neuroscience Based Nomenclature (NbN) – Can neuroscience change an outdated psychotropic classification?

Joseph Zohar, Tel Aviv University, Israel

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

Animal model for PTSD as a model for research plan and design

Avraham Avital, ***Behavioral Neuroscience Lab, Department of Physiology, The Bruce Rappaport Faculty of Medicine, Israel***

The exposure to stress at different developmental time points has long been postulated to have a crucial impact on various brain structures involved in mental disorders. The long-term specific effects seem to emerge as a function of timing and duration of the exposure to stress, as well as the characteristics of the stressor. Previous studies have addressed this issue with an effort to describe a single “hyper-sensitive” time point, and have led to disagreement on a particular sensitive period for stress exposure. The primary aim of our study was to investigate the hypothesis that indeed there is a developmental stress risk window. We conducted a systematic mapping of the effects of an equivalent stress protocol, applied at 11 different time-points during development, on its long-term consequences in adulthood. We found both behaviorally and physiologically that the pubescence time points are the most vulnerable to stress compared to all other tested time points along the developmental trajectory. Considering the comparison between rat and human age, our findings recommend focusing on the childhood-to-adulthood transition, which can exacerbate the predisposition for the development of major stress-induced psychopathologies. Next, we applied this stress sensitive time window in establishing animal model for PTSD. Finally, one of the most prominent function that is impaired in the aforementioned psychopathologies (and in many others) is social functioning. Trying to depict this function in animal model, we established a full-computerized behavioral task.

Major depression as a model for research plan and design

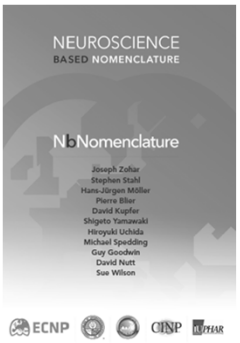
Rene Hurlemann, University of Bonn Medical Center, Germany

Major depressive disorder (MDD) is currently ranked third worldwide in disease burden and is expected to rank first in high-income countries in 2030. As many as a third of MDD patients suffer from treatment-refractory depression (TRD), which is defined as the failure to achieve response to one or more standard antidepressant treatment trials of adequate dosing and duration (Hurlemann et al., Sci Rep 2015). To help those with TRD, the discovery of novel therapeutics and innovative treatments is essential (Papakostas and Ionescu, Mol Psychiatry 2015). In this talk, I will discuss the major outcomes of the STAR*D trial and present the latest research trajectories in andidepressant drug research, with a particular emphasis on clinical trial design.

NbN

Neuroscience based Nomenclature

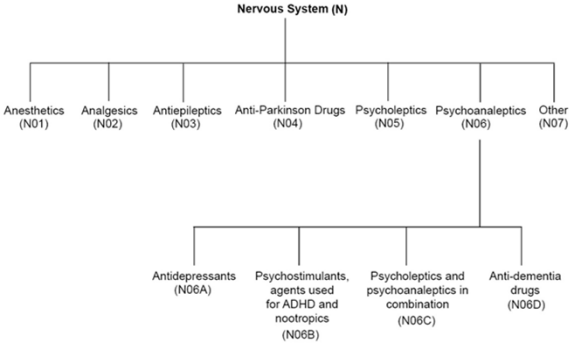
Joseph Zohar
Tel Aviv University,
Israel



Introduction

It has become clear that the current nomenclature of psychotropic medications does not reflect contemporary knowledge, nor does it appropriately inform the clinician about rational neuroscience-based prescribing.

Current nomenclature for psychotropic drugs under the WHO system (adapted from Guidelines for ATC classification and DDD assignment 2015)

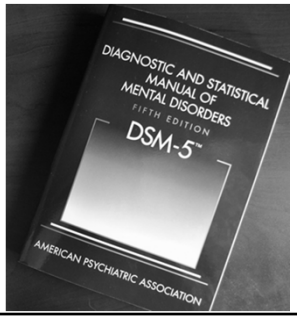


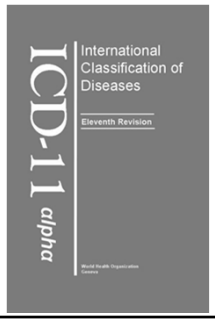
Current antidepressant nomenclature under the WHO system (adapted from Guidelines for ATC classification and DDD assignment 2015).

Antidepressants
(N06A)

- **Non-selective monoamine reuptake inhibitors** (N06AA)
  e.g. imipramine, amitriptyline, clomipramine, dosulepin, doxepin, lofepramine, trimipramine, amoxapine, protriptyline (TCAs), desipramine, nortriptyline, maprotiline (NRIs)
- **Selective serotonin reuptake inhibitors** (N06AB)
  e.g. Zimeldine, fluvoxamine, fluoxetine, paroxetine, sertraline, citalopram, escitalopram
- **Monoamine oxidase inhibitors, non-selective** (N06AF)
  e.g. Phenelzine, isocarboxazid, tranylcypromine
- **Monoamine oxidase A inhibitors** (N06AG)
  e.g. Moclobemide, tobxatone
- **Other antidepressants** (N06AX)
  e.g.
  reboxetine **(NRIs)**
  venlafaxine, milnacipran, duloxetine **(SNRIs)**
  nomifensine, bupropion **(NDRIs)**
  mirtazapine **(NaSSAs)**
  trazodone, nefazodone **(SARIs)**
  agomelatine **(MT receptor antagonist/5-HT2c antagonist)**
  gepirone **(5-HT1A partial agonist)**

Diagnosis updates going on (DSM 5, ICD 11th)





Very often we prescribe "**antidepressants**" for anxiety disorders or "**second generation antipsychotics**" to depressed patients who show no evidence of psychosis.

Current nomenclature and adherence

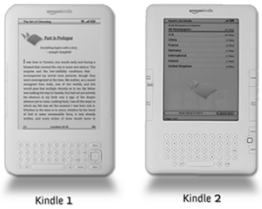
Anxious patients:	Depressed patients:
"Why are you giving me an antidepressant for my anxiety?"	"Is my condition so bad that you are giving me an antipsychotic?"

This *disconnection* between the names given to compounds and the conditions for which they are prescribed is

confusing

For prescribers, it may limit the way they think about treatment alternatives and in some examples, influences choice through marketing techniques.

A '**second generation**' drug sounds like an advance on an '**old**' drug.



For **patients**, to be prescribed antipsychotics or anticonvulsants may carry the false implication that they have psychosis or epilepsy and, consequently, impact (decrease) adherence.

Our expectations from a psychotropic nomenclature are that it should:

(a) Be based on contemporary knowledge.

(b) Help clinicians to make informed choices when working out the next "pharmacological step."

(c) Provide a system that does not conflict with the use of medications.

(d) Be future proof and to accommodate new types of compounds

The mission

- To provide a **pharmacologically-driven** (rather than indication-based) nomenclature that embeds contemporary neuroscience understanding of how medicines act.

The mission

- To help **clinicians** to make informed choices when they are trying to figure out what would be the next "pharmacological step."

The mission

- To **decrease stigma** and **enhance adherence** by a naming system that lays out the rationale for selecting a specific psychotropic.

European Neuropsychopharmacology (2014) 24, 1005-1014

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www.elsevier.com/locate/euroneuro

A proposal for an updated neuropsychopharmacological nomenclature

Joseph Zohar[a,*], David J. Nutt[b], David J. Kupfer[c], Hans-Jurgen Moller[d], Shigeto Yamawaki[e], Michael Spedding[f,1], Stephen M. Stahl[g,h]

The NbN

Provides a pharmacological driven nomenclature focusing on

Pharmacology and

mode of action – Reflects current knowledge and understanding about the targeted neurotransmitter/ molecule / system being modified + mode / mechanism of action

It also includes **4 additional dimensions**:

1. **Approved indications** –
Is based on the recommendations of major regulatory bodies (e.g. FDA, EMA, etc.)

2. **Efficacy and side effects** –
aimed to highlight the situations where the compound fell short of approval for a formal indication, although there is evidence to support its use, for example, in expert guidelines.
In the side effects part, only prevalent or life-threatening side-effects are included.

3. **"Practical note"**
summarizes the clinical knowledge that has been prioritized by "filtering" though the taskforce's "opinion sieve".

4. **Neurobiology** –
is derived from empirical data and divided into preclinical and clinical sections, with an emphasis on the latter.

For those who would like to know more about the pharmacology, there is a direct link to the relevant site of **IUPHAR** – our collaborator in this endeavor.

Psychotropics included

In this first edition of the NbN, we included **108 compounds** which cover the vast majority of psychotropics used worldwide. We did not include formulations which combine medications.

Limitation

It is sometimes true that current knowledge is not sufficient to define the primary target or the correct mode of action with confidence.

However, as a taskforce, we feel that it is better to present a cutting-edge scientific interpretation than to wait for the ultimate scientific truth. After all, we need to treat our patients now, and cannot postpone treatment until all the facts are known.

The taskforce

Five major international neuropsychoparmacological scientific organizations joined forces together to create this nomenclature.

These organizations are:

ECNP - European College of Neuropsychopharmacology
ACNP - American College of Neuropsychopharmacology
AsCNP - Asian College of Neuropsychopharmacology
CINP - International College of Neuropsychopharmacology
IUPHAR - International Union of Basic and Clinical Pharmacology

The composition of the taskforce is:

Chair: Joseph Zohar, European College of Neuropsychopharmacology
Stephen Stahl, International College of Neuropsychopharmacology
Hans-Jürgen Möller, International College of Neuropsychopharmacology
Pierre Blier, American College of Neuropsychopharmacology
David Kupfer, American College of Neuropsychopharmacology
Shigeto Yamawaki, Asian College of Neuropsychopharmacology
Hiroyuki Uchida, Asian College of Neuropsychopharmacology
Michael Spedding, International Union of Basic and Clinical Pharmacology
Guy Goodwin, European College of Neuropsychopharmacology
David Nutt, European College of Neuropsychopharmacology

Coordinator: Sue Wilson, Imperial College of London

All the expenses related to developing this nomenclature were covered by **ECNP**. Throughout the entire process there was no direct or indirect support from any pharmacological company or other organization.

ECNP
european college of
neuropsychopharmacology

Updates

Taking into account new findings and new insights, including feedback that reflects the "wisdom of clinicians," the taskforce will update the NbN twice a year (May and September).

NbN App

Pharmacological domains

1	Acetylcholine
2	Dopamine
3	GABA
4	Glutamate
5	Histamine
6	Ion Channel
7	Lithium mimetic
8	Melatonin
9	Norepinephrine
10	Opioid
11	Serotonin

Modes / mechanisms of actions (MoA)

1	Receptor agonist
2	Receptor partial agonist
3	Receptor antagonist
4	Reuptake inhibitor
5	Reuptake inhibitor and releaser
6	Reuptake inhibitor and receptor antagonist
7	Enzyme inhibitor
8	Ion channel blocker
9	Positive allosteric modulator (PAM)
10	Enzyme modulator

4 additional dimensions

1	**Approved indications**	Based on the recommendations of major regulatory bodies (e.g. FDA, EMA, etc.)
2	**Efficacy and side effects**	Aimed to highlight the situations where the compound fell short of approval for a formal indication, although there is evidence to support its use, for example, in expert guidelines. In the side effects part, only prevalent or life-threatening side-effects are included.
3	**"Practical note"**	Summarizes the clinical knowledge that has been "filtered" though the taskforce "sieve".
4	**Neurobiology**	Derived from empirical data and divided into preclinical and clinical sections, with an emphasis on the latter.

NbN Glossary

Former terminology	NbN		Drugs
Indication-based	(Pharmacological-based)		
	Pharmacology	Mode of action MM; multimodal (e.g. more than one mode)	
Antidepressants	Drugs for depression		
(TCA)	norepinephrine	reuptake inhibitor (NET)	desipramine
	norepinephrine, serotonin	reuptake inhibitor (NET and SERT)	protriptyline,lofepramine, amoxapine, nortriptyline
	serotonin, norepinephrine	reuptake inhibitor (SERT and NET)	imipramine, dosulepin.
	serotonin	reuptake inhibitor (SERT)	clomipramine
	serotonin, norepinephrine	MM; reuptake inhibitor (SERT and NET), 5-HT2 receptor antagonist	amitriptyline
	norepinephrine, serotonin	MM; reuptake inhibitor (NET and SERT), 5-HT2 receptor antagonist	doxepin
	serotonin, dopamine	receptor antagonist (5-HT2 and D2)	trimipramine

* The glossary includes only the psychotropics relevant to former terminology. Newer medications or psychotropics not included here could be found in NbN by their name

Former terminology	NbN		Drugs
Indication-based	(Pharmacological-based)		
	Pharmacology	Mode of action MM; multimodal (e.g. more than one mode)	
Antidepressants	Drugs for depression		
(MAOI)	serotonin, norepinephrine, dopamine	enzyme inhibitor (MAO-A and -B)	isocarboxazid, phenelzine
		reversible enzyme inhibitor (MAO-A)	moclobemide
		MM; enzyme inhibitor (MAO-A and -B), releaser (DAT, NET)	tranylcypromine
	dopamine, norepinephrine, serotonin	enzyme inhibitor (MAO-B and -A)	selegiline
(SSRI)	serotonin	reuptake inhibitor (SERT)	citalopram, escitalopram, fluoxetine, fluvoxamine, paroxetine, sertraline
(SNRI)	serotonin, norepinephrine	reuptake inhibitor (SERT and NET)	venlafaxine, duloxetine
	norepinephrine, serotonin	reuptake inhibitor (NET and SERT)	milnacipran

Former terminology	NbN		Drugs
Indication-based	(Pharmacological-based)		
	Pharmacology	Mode of action MM; multimodal (e.g. more than one mode)	
Stimulants			
	dopamine and norepinephrine	reuptake inhibitors and release	amphetamine (D) and (D,L), lisdexamfetamine, methylphenidate (D) and (D, L)
Mood stabilisers	Drugs for relapse prevention		
	glutamate	voltage-gated sodium and calcium channel blocker	carbamazepine, oxcarbazepine
	glutamate	voltage-gated sodium channel blocker	lamotrigine
	glutamate	yet to be determined	valproate
		enzyme interactions	lithium

Former terminology	NbN		Drugs
Indication-based	(Pharmacological-based)		
	Pharmacology	Mode of action MM; multimodal (e.g. more than one mode)	
Antipsychotics	Drugs for psychosis		
(Typical (1st generation)	dopamine	receptor antagonist (D2)	flupenthixol, fluphenazine, haloperidol, perphenazine, pimozide, pipotiazine, sulpiride, trifluoperazine, zuclopenthixol
	dopamine, serotonin	receptor antagonist (D2, 5-HT2)	chlorpromazine, thioridazine
Atypical (2nd generation)	dopamine	receptor antagonist (D2)	amisulpiride
	dopamine, serotonin	receptor antagonist (D2, 5-HT2)	iloperidone, loxapine, lurasidone, olanzapine, perospirone, sertindole, ziprasidone, zotepine
	dopamine, serotonin	receptor partial agonist (D2, 5-HT1A)	aripiprazole
	dopamine, serotonin, noradrenaline	receptor antagonist (D2, 5-HT2, NE alpha-2)	asenapine, clozapine, risperidone, paliperidone
		MM; receptor antagonist (D2, 5-HT2) and reuptake inhibitor (NET)(metabolite)	quetiapine

Former terminology	NbN		Drugs
Indication-based	(Pharmacological-based)		
	Pharmacology	Mode of action MM; multimodal (e.g. more than one mode)	
Anxiolytics	Drugs for anxiety		
	GABA	positive allosteric modulator (GABA-A receptor, benzodiazepine site)	alprazolam, chlordiazepoxide, clonazepam, clorazepate, diazepam, flunitrazepam, lorazepam, oxazepam
	serotonin	receptor partial agonist (5-HT1A)	buspirone
	glutamate	voltage-gated calcium channel blocker	gabapentin, pregabalin
	histamine	receptor antagonist (H1)	hydroxyzine
Hypnotics	Drugs for insomnia		
(Benzodiazepine)	GABA	positive allosteric modulator (GABA-A receptor, benzodiazepine site)	estazolam, eszopiclone, flunitrazepam, lormetazepam, midazolam, quazepam, temazepam, triazolam, zaleplon, zolpidem , zopiclone
	melatonin	receptor agonist (M1, M2)	melatonin, ramelteon

Dear Authors,

It is recommended that authors adopt NbN (Neuroscience based Nomenclature) terminology for psychotropics, as it reflects contemporary pharmacological knowledge, rather than arbitrary descriptors based on indication (antidepressants, antipsychotics, etc.) or chemical structure. The intention is to harmonize editorial practice in this important area.

The glossary* (enclosed) illustrates the relationship between general terms (e.g. mood stabilizers, anxiolytic etc.) in the former terminology and NbN's proposed terminology.

Use the NbN app. to search a specific drug, pharmacology target, mode of action, or even indication, efficacy and side effects (as well as any combination of them)
Available free of cost.
for iPhone https://itunes.apple.com/us/app/nbn-neuroscience-based-nomenclature/id927272449?mt=8
for Android https://play.google.com/store/apps/details?id=il.co.inmanage.nbnomenclature

We look forward to your feedback and suggestions. Please contact us with with any questions, concerns, or new ideas at support@nbnomenclature.org

Kind regards,
Prof. Joseph Zohar
On behalf of the task-force

Guy Goodwin, David Nutt *(ECNP)*
David Kupfer, Pierre Blier *(ACNP)*
Stephen Stahl, Hans-Jürgen Möller *(CINP)*
Shigeto Yamawaki, Hiroyuki Uchida *(AsCNP)*
and Michael Spedding (NC-IUPHAR)

* The glossary includes only the psychotropics relevant to former terminology. Newer medications or psychotropics not included here could be found in NbN by their name (generic or brand)

Conclusions

Our expectations from a psychotropic nomenclature are that it should:

(a) Be based on contemporary knowledge.

(b) Help clinicians to make informed choices when working out the next "pharmacological step."

(c) Provide a system that does not conflict with the use of medications.

(d) Be future proof and to accommodate new types of compounds

None of them are true for the current nomenclature

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(a) Be based on contemporary knowledge.

(b) Help clinicians to make informed choices when working out the next "pharmacological step."

(c) Provide a system that does not conflict with the use of medications.

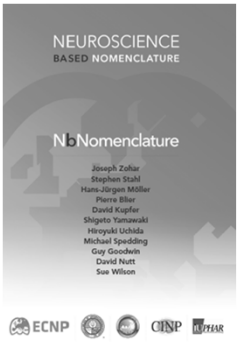
(d) Be future proof and to accommodate new types of compounds

All of them are true for the NbN

NbN

Neuroscience based Nomenclature

Joseph Zohar
Tel Aviv University,
Israel



Major Depression as a Model for Research Plan and Design

Visiting Associate
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ICD-10 Diagnostic criteria

To diagnose a depressive disorder and determine its severity according to ICD-10 the following diagnostic criteria are relevant:

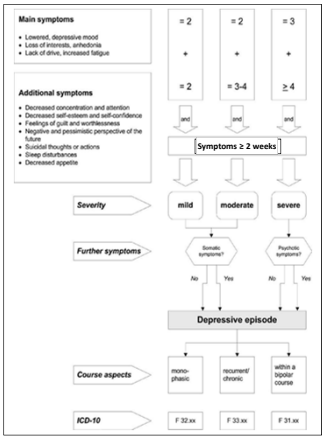
At least two (severe depression: three) main symptoms must persist **at least 2 weeks**.

The severity is determined by the additional symptom load:
- 2 => mild episode, F32.0
- 3-4 => moderate episode, F32.1
- 4-7 => severe episode, F32.2

• A **severe depressive episode** can be further classified as **"with psychotic symptoms"** (F32.3), if delusional ideas (usually ideas of sin, pauperization, or a coming catastrophe), hallucinations, or depressive stupor occur.

A **recurrent depressive episode** of varying severity (F33.X) is characterized by a history of at least one other depressive episode in addition to the current one.

Source: S3-Guideline/National Disease Management Guideline Unipolar Depression Short Version, 1st edition, Version 5 (06/2015)
http://www.leitlinien.de/nvl/depression



Source: S3-Guideline/National Disease Management Guideline Unipolar Depression Short Version, 1st edition, Version 5 (06/2015)
http://www.leitlinien.de/nvl/depression

Diagnostic algorithm

Major symptoms (disorder of mood, drive, and/or activity) present?

No → other mental diseases

Evidence of organic causes?

Yes → test for organic mental disorders

No Evidence of psychotropic substance involvement?

Yes → test interference of psychotropic substances

No Exact characterization of the psychopathology of the depressive syndrome

and recording of information about aetiology
and family medical history
and aggravating factors

Source: S3-Guideline/National Disease Management Guideline Unipolar Depression Short Version, 1st edition, Version 5 (06/2015)
http://www.leitlinien.de/nvl/depression

Suicidal ideation

Suicidality is the rule rather than the exception

- Up to 70% of patients have suicidal thoughts during a depressive episode
- Up to 10% of all patients hospitalized due to suicidality and 5% of all patients hospitalized due to a depressive disorder (without specific suicidality) die through suicide

The **active and empathic evaluation of suicidality** is therefore particularly important in the course of the first diagnostic attempt.

Most important risk factors:

- Previous suicide attempts
- Psychotic symptoms
- No concept of future
- Male gender, older age (especially men >70 years) and social isolation

Source: S3-Guideline/National Disease Management Guideline Unipolar Depression Short Version, 1st edition, Version 5 (06/2015)
http://www.leitlinien.de/nvl/depression

Therapeutic considerations

The therapy of unipolar depression requires **continuous**
- diagnostic monitoring throughout the treatment
- process evaluation

Appropriate self-assessment tools
- Patient Health Questionnaire (PHQ-D)
- Beck Depression Inventory (BDI)
- Hospital Anxiety and Depression Scale (HADS)
- Diagnostics of Depression Questionnaire (FDD)
- Global Depression Scale (ADS)
- Geriatric Depression Scale (GDS) in elderly patients

Clinician-administered assessment tools

- Hamilton Depression Rating Scale (HDRS)
- Bech-Rafaelsen Melancholia Scale (BRMS)
- Montgomery-Asberg Depression Rating Scale (MADRS)

Source: S3-Guideline/National Disease Management Guideline Unipolar Depression Short Version, 1st edition, Version 5 (06/2015)
http://www.leitlinien.de/nvl/depression

Therapeutic considerations

Patient Name:_____ Date:_____

Hamilton Rating Scale for Depression (17-items)

Instructions: For each item select the "cue" which best characterizes the patient during the past week.

1. **Depressed Mood**
   (sadness, hopeless, helpless, worthless)
   0 Absent
   1 These feeling states indicated only on questioning
   2 These feeling states spontaneously reported verbally
   3 Communicates feeling states nonverbally, i.e., through facial expression, posture, voice and tendency to weep
   4 Patient reports VIRTUALLY ONLY these feeling states in his spontaneous verbal and nonverbal communication

2. **Feelings of Guilt**
   0 Absent
   1 Self-reproach, feels he has let people down
   2 Ideas of guilt or rumination over past errors or sinful deeds
   3 Present illness is a punishment. Delusions of guilt
   4 Hears accusatory or denunciatory voices and/or experiences threatening visual hallucinations

3. **Suicide**
   0 Absent
   1 Feels life is not worth living
   2 Wishes he were dead or any thoughts of possible death to self
   3 Suicide ideas or gesture
   4 Attempts at suicide (any serious attempt rates 4)

4. **Insomnia - Early**
   0 No difficulty falling asleep
   1 Complains of occasional difficulty falling asleep i.e., more than ½ hour
   2 Complains of nightly difficulty falling asleep

9. **Agitation**
   0 None
   1 "Playing with" hand, hair, etc.
   2 Hand-wringing, nail-biting, biting of lips

10. **Anxiety - Psychic**
    0 No difficulty
    1 Subjective tension and irritability
    2 Worrying about minor matters
    3 Apprehensive attitude apparent in face or speech
    4 Fears expressed without questioning

11. **Anxiety - Somatic**
    0 Absent — Physiological concomitants of anxiety such as:
    1 Mild — Gastrointestinal - dry mouth, wind, indigestion,
    2 Moderate — diarrhea, cramps, belching
    3 Severe — Cardiovascular – palpitations, headaches
    4 Incapacitating — Respiratory - hyperventilation, sighing
    Urinary frequency
    Sweating

12. **Somatic Symptoms - Gastrointestinal**
    0 None
    1 Loss of appetite but eating without staff encouragement. Heavy feelings in abdomen.
    2 Difficulty eating without staff urging. Requests or requires laxatives or medications for bowels or medication for G.I. symptoms.

Source: Hamilton (1960) A rating scale for depression. *J Neurol Neurosurg Psychiatry* 23:56-62

Therapeutic considerations

5. **Insomnia - Middle**
   0 No difficulty
   1 Patient complains of being restless and disturbed during the night
   2 Waking during the night – any getting out of bed rates 2 (except for purposes of voiding)

6. **Insomnia - Late**
   0 No difficulty
   1 Waking in early hours of the morning but goes back to sleep
   2 Unable to fall asleep again if gets out of bed

7. **Work and Activities**
   0 No difficulty
   1 Thoughts and feelings of incapacity, fatigue or weakness related to activities; work or hobbies
   2 Loss of interest in activity; hobbies or work – either directly reported by patient, or indirect in listlessness, indecision and vacillation (feels he has to push self to work or activities)
   3 Decrease in actual time spent in activities or decrease in productivity. In hospital, rate 3 if patient does not spend at least three hours a day in activities (hospital job or hobbies) exclusive of ward chores.
   4 Stopped working because of present illness. In hospital, rate 4 if patient engages in no activities except ward chores, or if patient fails to perform ward chores unassisted.

8. **Retardation**
   (slowness of thought and speech; impaired ability to concentrate; decreased motor activity)
   0 Normal speech and thought
   1 Slight retardation at interview
   2 Obvious retardation at interview
   3 Interview difficult
   4 Complete stupor

13. **Somatic Symptoms - General**
    0 None
    1 Heaviness in limbs, back or head, backaches, headache, muscle aches, loss of energy and fatigability
    2 Any clear-cut symptom rates 2

14. **Genital Symptoms**
    0 Absent 0 Not ascertained
    1 Mild — Symptoms such as: loss of libido,
    2 Severe — menstrual disturbances

15. **Hypochondriasis**
    0 Not present
    1 Self-absorption (bodily)
    2 Preoccupation with health
    3 Frequent complaints, requests for help, etc.
    4 Hypochondriacal delusions

16. **Loss of Weight**
    A. When Rating by History:
    0 No weight loss
    1 Probable weight loss associated with present illness
    2 Definite (according to patient) weight loss

    B. On Weekly Ratings by Ward Psychiatrist, When Actual Changes are Measured:
    0 Less than 1 lb. weight loss in week
    1 Greater than 1 lb. weight loss in week
    2 Greater than 2 lb. weight loss in week

17. **Insight**
    0 Acknowledges being depressed and ill
    1 Acknowledges illness but attributes cause to bad food, climate, overwork, virus, need for rest, etc.
    2 Denies being ill at all

Total Score: _____

Source: Hamilton (1960) A rating scale for depression. *J Neurol Neurosurg Psychiatry* 23:56-62

Therapeutic options

The **choice of the appropriate treatment alternative** depends on ...
- clinical factors, such as symptom severity
- course of the disease
- the patient's individual preference (shared decision-making)

Generally there are four primary treatment strategies:
- **watchful waiting**
- **drug intervention**
- **psychotherapy**
- **combination therapy**

Complementary / augmentation strategies:
- brain stumulation (noninvasive: tDCS, rTMS, dTMS, ECT; experimental: TDS)
- light therapy
- sleep restriction therapy
- sport and occupational therapy
- creative therapies (art, music etc.)

Source: S3-Guideline/National Disease Management Guideline Unipolar Depression Short Version, 1st edition, Version 5 (06/2015) http://www.leitlinien.de/nvl/depression

Therapeutic options

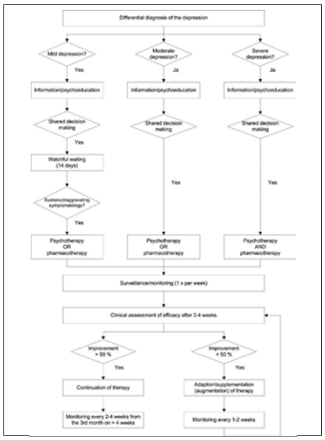
The treatment of a depression, especially of a recurrent depression, may be separated into three phases:

- **acute therapy**
- **maintenance therapy** (in case of sole pharmacotherapy: four to nine months after remission; in case of sole psychotherapy: eight to twelve months after remission)
- **long-term/recurrence prophylaxis**

Prophylaxis in recurrent depression is not necessary for all but only for patients with

- increased risk of a depression recurrence and/or
- biographically acquired unfavourable factors that are driving the disorder and reduced capacities to cope, which may both trigger further crisis and chronification

Source: S3-Guideline/National Disease Management Guideline Unipolar Depression Short Version, 1st edition, Version 5 (06/2015) http://www.leitlinien.de/nvl/depression



Source: S3-Guideline/National Disease Management Guideline Unipolar Depression Short Version, 1st edition, Version 5 (06/2015) http://www.leitlinien.de/nvl/depression

Therapeutic outcome and illness course

Symptom-related

- **Response:** Reduction of the depressive symptoms by 50% on standard scales from treatment initiation
- **Remission:** Complete restoration of the original functional state or largely symptom-free after acute therapy

Course-related

- **Onset of effect** (early vs late)
- **Process of improvement** (slow vs rapid/abrupt)
- **Relapse:** Re-appearance of a depressive episode during the maintenance therapy
- **Complete recovery:** Symptom-free for about 6 months after remission
- **Recurrence:** Re-appearance of a depressive episode after complete recovery

Toxicity-related

- Side effects

Source: S3-Guideline/National Disease Management Guideline Unipolar Depression Short Version, 1st edition, Version 5 (06/2015) http://www.leitlinien.de/nvl/depression

How and whom do we treat?

Antidepressant substance groups

- Tri- (Tetra-)cyclic antidepressants (TCA) or nonselective monoamine-reuptake inhibitors (NSMRI)
- Selective serotonin-reuptake inhibitors (SSRI)
- Monoamine oxidase (MAO) inhibitors
- Selective serotonin-/noradrenaline-reuptake inhibitors (SNRI)
- Selective noradrenalin-reuptake inhibitors (NARI)
- Alpha2-receptor antagonists
- Selective noradrenalin-dopamine-reuptake inhibitors (Bupropione)
- Melatonin-receptor agonist (MT1/MT) and serotonin 5-HT2C-receptor antagonist (Agomelatine)

Complementary / augmentation treatments, e.g. antipsychotics, benzodiazepines, lithium

Source: S3-Guideline/National Disease Management Guideline Unipolar Depression Short Version, 1st edition, Version 5 (06/2015) http://www.leitlinien.de/nvl/depression

What to select?

Tolerability	• Different side-effect profiles of SSRI and TCA, especially in outpatient care, compared with conventional, older TCA; • tolerability of TCA and SSRI barely different in inpatient care; • qualitatively different side-effect profile of TCA and SSRI (serious complications more frequent under TCA, eg, delirium, cardiac block/arrhythmia, retention of urine); • when prescribing antidepressants to female patients the lower tolerability of imipramin must be taken into account.
Overdose risk	• The intake of a one week's supply of TCA may be lethal in suicidal patients; in outpatient care, thus, prescription of small packaging sizes only.
Response in previous use	• Efficacy and tolerability of previous treatments with antidepressants should be taken into account in new occurrences.
Drug regimen	• When compared with SSRI or newer antidepressants, TCA require more individualized titration and control (step-wise up-titration, plasma level, ECG control); • Step-wise uptitration also makes sense for SSRI and newer antidepressants such as venlafaxin and mirtazapin.
Practical drug experience	• The physician's experience with specific antidepressants is relevant to the selection of the drug.
Options if treatment fails	• For TCA the measurement of serum levels is useful, because the therapeutic serum levels are known for most TCA. The administration of high doses may be useful for TCA, because there is a dose-effect relationship.
Comorbidity and comedication	• Comorbidity: see information on elderly patients under "pharmacotherapy in special patient groups", comedication see "drug interactions in the long version"; • if there is comorbidity with obsessive-compulsive disorder: SSRI or Clomipramin

Source: S3-Guideline/National Disease Management Guideline Unipolar Depression Short Version, 1st edition, Version 5 (06/2015) http://www.leitlinien.de/nvl/depression

What to select?

We know from clinical trials that ...

... because there are no statistically significant differences between placebo and antidepressant in mild depression, only few patients are expected to benefit from the treatment with antidepressants

... in moderate to severe depression the difference between placebo and antidepressant is greater; 10-30% of the treated patients benefit from antidepressants beyond the rate determined for placebo

... antidepressants do **not** act faster than placebo. If adequately dosed, the onset of effect of antidepressants is fast (within the first two weeks of treatment in 70 % of responders)

... if no improvement is observed during the first 2 weeks of treatment, the probability of a clinical response declines to <15 %. After 3 weeks without improvement the probability is already <10 %. At this point at the latest, the treatment should be modified, either by increasing the dose, adding another drug, or switching the drug

Source: S3-Guideline/National Disease Management Guideline Unipolar Depression Short Version, 1st edition, Version 5 (06/2015) http://www.leitlinien.de/nvl/depression

Example 1. Sequenced Treatment Alternatives to Relieve Depression (STAR*D) study

Treating depression in the real world

The **STAR*D** project was a 6-year, $35 million study examining "next best" steps for patients with major depression who do not benefit from initial (and subsequent) treatments and still is the largest and longest study ever conducted to evaluate depression treatment.

The study was composed of 4 treatment levels each of which tested a different intervention. The **primary goal** of each level was to make patients **symptom-free (= remission)!**

The **primary outcome** was the clinician-rated, 17-item Hamilton Rating Scale for Depression, administered at entry and exit from each treatment level through telephone interviews by assessors masked to treatment assignments

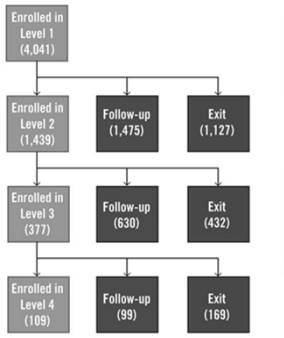
Secondary outcomes included self-reported depressive symptoms, physical and mental function, side-effect burden, client satisfaction, and health care utilization and cost

STAR*D was designed as a **multisite, prospective, randomized, multistep clinical trial of outpatients** with nonpsychotic major depression

Source: NIMH Practical Clinical Trials http://www.nimh.nih.gov/funding/clinical-research/practical/stard/index.shtml

Example 1. STAR*D Trial

FIGURE
FLOW OF PATIENTS THROUGH STAR*D TREATMENT LEVELS



STAR*D=Sequenced Treatment Alternatives to Relieve Depression.
Ziffra MS, Gilmer WS. *Primary Psychiatry.* Vol 14, No 1. 2007.

TABLE
TREATMENT LEVELS OF STAR*D

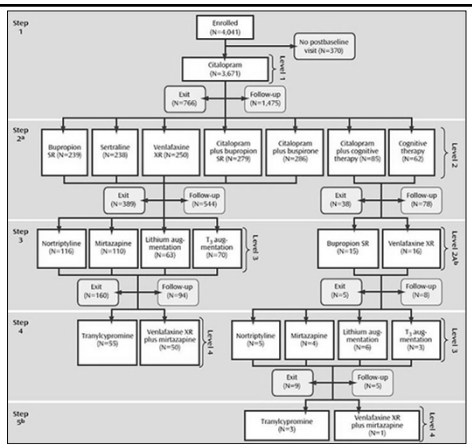
Level 1
All entrants to STAR*D started on citalopram, titrated aggressively

Level 2
Entry to Level 2 is restricted to those intolerant to citalopram in Level 1, or those who do not remit in Level 1
- Switch options: sertraline, venlafaxine XR, bupropion SR, CBT
- Augment options: buspirone, bupropion SR, CBT

Level 3
Restricted to those intolerant to Level 2 treatment, or those who do not remit in Level 2
- Switch: mirtazapine, nortriptyline
- Augment: lithium, triiodothyronine

Level 4
Restricted to those who do not tolerate Level 3 treatment, or who fail to remit in Level 3 treatment
- Switch: tranylcypromine
- Combination: venlafaxine XR/mirtazapine

STAR*D=Sequenced Treatment Alternatives to Relieve Depression; XR=extended release; SR=sustained release; CBT=cognitive-behavioral therapy.
Denko TC, Friedman ES. *Primary Psychiatry.* Vol 14, No 1. 2007.



Rush et al (2006) Acute and longer-term outcomes in depressed outpatients requiring one or several treatment steps: A STAR*D Report. *Am J Psychiatry* 163:1905-1917

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Denko TC, Friedman ES. *Primary Psychiatry.* Vol 14, No 1. 2007.

General Surprises: In most clinical trials of treatment for depression, the measure of success (outcome) is called "response" to treatment, which means that the patient's symptoms have decreased to 50% or less of what they were at the start of the trial.

In STAR*D, the outcome measure was a "remission" of depressive symptom, i.e. becoming symptom-free. This outcome was selected because people who reach this goal generally function better socially and at work, and have a better chance of staying well than do people who only achieve a response but not a remission.

Source: NIMH Practical Clinical Trials http://www.nimh.nih.gov/funding/clinical-research/practical/stard/index.shtml

Example 1. Sequenced Treatment Alternatives to Relieve Depression (STAR*D) study

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STAR*D=Sequenced Treatment Alternatives to Relieve Depression; XR=extended release; SR=sustained release; CBT=cognitive-behavioral therapy.

Denko TC, Friedman ES. *Primary Psychiatry.* Vol 14, No 1. 2007.

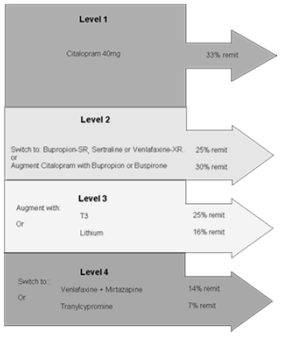
Level 1 Results: In level 1 (citalopram), about 30% of the participants reached remission and about 10-15 percent more responded, but did not reach remission. Still, these are considered "good" results because study participants had high rates of chronic or recurrent depression and other psychiatric medical problems.

It took 6 weeks of treatment for participants to improve enough to reach a response and nearly seven weeks of treatment for them to achieve a remission of depressive symptoms.

During this period, participants visited their care providers an average of 5-6 times.

Source: NIMH Practical Clinical Trials http://www.nimh.nih.gov/funding/clinical-research/practical/stard/index.shtml

Example 1. Sequenced Treatment Alternatives to Relieve Depression (STAR*D) study



Comment: The mean dose of citalopram 42mg/d was higher than many clinicians use.

Participants who were Caucasian, female, employed, or had higher levels of education or income had higher HAM-D remission rates.

Of participants who responded, 56% did so only at or after 8 weeks of treatment.

Source: Straton http://psyberspace.com.au/depression/STAR-D.htm

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- Augment: lithium, triiodothyronine

Level 4
Restricted to those who do not tolerate Level 3 treatment, or who fail to remit in Level 3 treatment
- Switch: tranylcypromine
- Combination: venlafaxine XR/mirtazapine

STAR*D=Sequenced Treatment Alternatives to Relieve Depression; XR=extended release; SR=sustained release; CBT=cognitive-behavioral therapy.

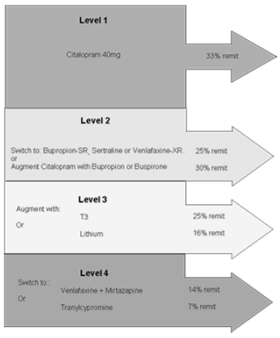
Denko TC, Friedman ES. *Primary Psychiatry.* Vol 14, No 1. 2007.

Level 2 Results: In the level 2 switch group, about **25%** of participants became symptom-free. All three of the switch medications (sertraline, buproprione, venlafaxine) performed about the same and were equally safe and well-tolerated.

In the level 2 add-on group (buproprion, buspirone, CBT), about **30%** of participants became symptom-free. Those who added bupropion experienced less troublesome side effects and slightly more reduction of symptoms than those who added buspirone.

Source: NIMH Practical Clinical Trials http://www.nimh.nih.gov/funding/clinical-research/practical/stard/index.shtml

Example 1. Sequenced Treatment Alternatives to Relieve Depression (STAR*D) study



Comment: There was a free choice for patients whether to enter the Switch arm or the Augmentation arm. The choice was thus not random or controlled. One cannot therefore conclude that augmenting is better than switching.

Sertraline is an SSRI as is citalopram used in the first treatment step and is therefore a same-class switch. Bupropion and venlafaxine act by inhibiting reuptake of 2 neurotransmitters and are referred to as an out-of-class switch. Although it has been a common assumption that a within-class switch might not be as effective as another approach, these findings suggest that any of these three approaches are reasonable choices.

Source: Straton http://psyberspace.com.au/depression/STAR-D.htm

Example 1. Sequenced Treatment Alternatives to Relieve Depression (STAR*D) study

TABLE
TREATMENT LEVELS OF STAR*D

Level 1
All entrants to STAR*D started on citalopram, titrated aggressively

Level 2
Entry to Level 2 is restricted to those intolerant to citalopram in Level 1, or those who do not remit in Level 1
- Switch options: sertraline, venlafaxine XR, bupropion SR, CBT
- Augment options: buspirone, bupropion SR, CBT

Level 4
Restricted to those who do not tolerate Level 3 treatment, or who fail to remit in Level 3 treatment
- Switch: tranylcypromine
- Combination: venlafaxine XR/mirtazapine

STAR*D=Sequenced Treatment Alternatives to Relieve Depression; XR=extended release; SR=sustained release; CBT=cognitive-behavioral therapy.

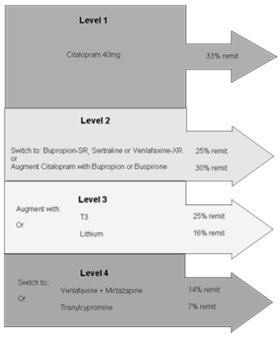
Denko TC, Friedman ES. *Primary Psychiatry.* Vol 14, No 1. 2007.

Level 3 Results: In the level 3 switch group (mirtazapine, nortriptyline), **up to 20%** of participants became symptom-free, and the two medications used fared about equally well, suggesting no clear advantage for either medication in terms of remission rates or side effects.

In the level 3 add-on group (lithium, T3), **20%** of participants became symptom-free, with the T3 treatment being associated with fewer troublesome side effects than lithium.

Source: NIMH Practical Clinical Trials http://www.nimh.nih.gov/funding/clinical-research/practical/stard/index.shtml

Example 1. Sequenced Treatment Alternatives to Relieve Depression (STAR*D) study



Comment: After 10 weeks of treatment, remission rates were 16% with lithium augmentation and 25% with T3 augmentation, although the difference between treatments was not statistically significant.

Lithium was more frequently associated with side effects (p=0.045), and more participants in the lithium group left treatment because of side effects (23% vs 10%; p=0.027).

T3 augmentation therefore seems preferable to Lithium augmentation.

Source: Straton http://psyberspace.com.au/depression/STAR-D.htm

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Level 3
Restricted to those intolerant to Level 2 treatment, or those who do not remit in Level 2
- Switch: mirtazapine, nortriptyline
- Augment: lithium, triiodothyronine

STAR*D=Sequenced Treatment Alternatives to Relieve Depression; XR=extended release; SR=sustained release; CBT=cognitive-behavioral therapy.

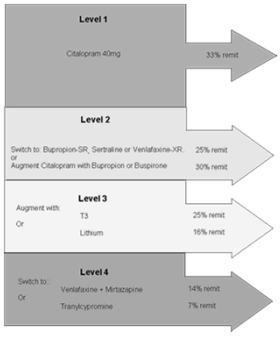
Denko TC, Friedman ES. *Primary Psychiatry.* Vol 14, No 1. 2007.

Level 4 Results: In level 4, up to **10%** of participants became symptom-free, with no statistically significant differences between the medications (tranylcypromine, venlafaxine/mirtazapine) in terms of remission, response rates or side effect burden.

But those who were treated with tranylcypromine were more likely to drop-out citing side effects as the reason.
It is also possible that the dietary restrictions associated with taking an MAOI could have limited its acceptability as a treatment.

Source: NIMH Practical Clinical Trials http://www.nimh.nih.gov/funding/clinical-research/practical/stard/index.shtml

Example 1. Sequenced Treatment Alternatives to Relieve Depression (STAR*D) study



Comment: Switching to combined Venlafaxine/Mirtazapine treatment appears preferable to switching to Tranylcypromine. The mean doses of Venlafaxine (210mg/d) and Mirtazapine (36mg/d) used were relatively low.

Source: Straton http://psyberspace.com.au/depression/STAR-D.htm

Example 1. Sequenced Treatment Alternatives to Relieve Depression (STAR*D) study

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STAR*D=Sequenced Treatment Alternatives to Relieve Depression; XR=extended release; SR=sustained release; CBT=cognitive-behavioral therapy.

Denko TC, Friedman ES. *Primary Psychiatry.* Vol 14, No 1. 2007.

General Results: In conclusion, about **50%** of participants in the STAR*D study became symptom-free after two treatment levels. Over the course of all four treatment levels, **70%** of those who did not drop out became symptom-free.

However, the rate at which participants dropped out was meaningful and rose with each level – 21% withdrew after level 1 and 42% withdrew after level 3.

For patients with the most treatment-resistant depression, level 4 results suggest that tranylcypromine is limited in its tolerability and that up to 10% may benefit from the combination of venlafaxine/mirtazapine.

Source: NIMH Practical Clinical Trials http://www.nimh.nih.gov/funding/clinical-research/practical/stard/index.shtml

Example 1. Sequenced Treatment Alternatives to Relieve Depression (STAR*D) study

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STAR*D=Sequenced Treatment Alternatives to Relieve Depression; XR=extended release; SR=sustained release; CBT=cognitive-behavioral therapy.

Denko TC, Friedman ES. *Primary Psychiatry.* Vol 14, No 1. 2007.

General Results: Switching to or adding CBT after a first unsuccessful attempt at treating depression with an antidepressant medication is generally as effective as switching to or adding another medication, but remission may take longer to achieve.

Source: NIMH Practical Clinical Trials http://www.nimh.nih.gov/funding/clinical-research/practical/stard/index.shtml

Example 1. Sequenced Treatment Alternatives to Relieve Depression (STAR*D) study

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STAR*D=Sequenced Treatment Alternatives to Relieve Depression; XR=extended release; SR=sustained release; CBT=cognitive-behavioral therapy.

Denko TC, Friedman ES. *Primary Psychiatry.* Vol 14, No 1. 2007.

General Results: Patients with difficult-to-treat depression can get well after trying several treatment strategies, but the chances of beating the depression will diminish with every additional treatment strategy needed.

Those who need to undergo several treatment steps ...
- are more likely to relapse during the follow-up period
- have more severe depressive symptoms
- have more co-existing psychiatric and general medical problems
- co-occurring anxiety complicates treatment response

Source: NIMH Practical Clinical Trials http://www.nimh.nih.gov/funding/clinical-research/practical/stard/index.shtml

How to treat therapy-resistent depression?

The clinical problem:

For two-thirds of patients with depression, existing therapies do not work sufficiently, and many are deemed 'treatment resistant'. For this group of patients with TRD, novel therapeutics and innovative treatments are especially essential.

Novel therapeutics:

Background: Several randomized, double-blind, placebo-controlled trials have demonstrated ketamine's rapid (within 110 min), robust (across a variety of symptoms) and relatively sustained (approximately 7 days) antidepressant efficacy at subanesthetic intravenous doses (typically, 0.5 mg kg – 1 over 40 min) in well characterized patients with TRD.

Source: Papakostas & Ionescu (2015) Towards new mechanisms: an update on therapeutics for treatment-resistant major depressive disorder. *Mol Psychiatry* 20: 1142–1150

How to treat therapy-resistent depression?

The clinical problem:

For two-thirds of patients with depression, existing therapies do not work sufficiently, and many are deemed 'treatment resistant'. For this group of patients with TRD, novel therapeutics and innovative treatments are especially essential.

Novel therapeutics:

(1) NMDA receptor antagonists / subunit blockers
- Ketamine
- Lanicemine
- (Memantine, Riluzole)
- Nitrous oxide (= loughing gas)
- Experimental agents: MK-0657, GLYX-13, AVP-786

(2) Modulators of metabotropic glutamate receptors
- mGluR2 / mGluR3 autoreceptors: LY341495, MGS0039

Source: Papakostas & Ionescu (2015) Towards new mechanisms: an update on therapeutics for treatment-resistant major depressive disorder. *Mol Psychiatry* 20: 1142–1150

How to treat therapy-resistent depression?

Novel therapeutics:

(3) Anticholinergic modulators (hypercholinergic state)
- Scopolamine (antimuscarinic compound)
- Mecamylamine and dexmecamylamine (TC-5214; antinicotinic compound)
- CP-601,927 (nicotinic partial agonist)

(4) Opioid system modulators (anhedonia)
- ALKS 5461 (combines two agents with agonistic plus antagonistic properties)

(5) Monoaminergics
- Vortioxetine (SSRI plus; FDA approval in 2013)
- Lisdexamfetamine dimesylate (LDX; prodrug of dextroamphetamine)
- Edivoxetine (LY2216684: highly selective NARI)
- Pramipexole (DA D3 agonist; FDA approval for PD and RLS)

(6) Neutraceuticals and Anti-inflammatories

Source: Papakostas & Ionescu (2015) Towards new mechanisms: an update on therapeutics for treatment-resistant major depressive disorder. *Mol Psychiatry* 20: 1142–1150

How to treat therapy-resistent depression?

Novel therapeutics:

(7) Hormones
- Erythropoietin (EPO)
- Testosterone
- Oxytocin (OXT)

(8) Exercise

(9) Device-based therapies
- TMS
- deep TMS (dTMS)
- tDCS
- DBS
- Pharmacological augmentation?

Double-blind, sham-coil controlled TMS studies are needed, and blinded head-to-head comparisons of standard TMS, dTMS, pharmacotherapy and ECT are necessary.

Although often seen as the gold standard for the treatment of depression, double-blind trials comparing ECT to an alternative (brain stimulation) therapy for depression have never been conducted.

Source: Papakostas & Ionescu (2015) Towards new mechanisms: an update on therapeutics for treatment-resistant major depressive disorder. *Mol Psychiatry* 20: 1142–1150

What about antipsychotics?

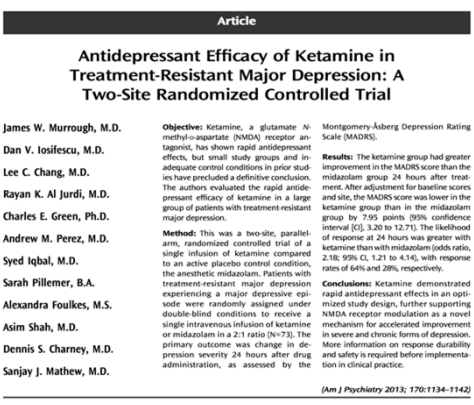
Over the past 5 years, the atypical antipsychotic agents have continued to expand their evidence base supporting their efficacy as adjunctive treatments in depression.

Olanzapine, aripiprazole and quetiapine represent the only pharmacological agents approved by the FDA as **adjunctive therapies** for use when standard antidepressants have failed to produce significant symptom improvement.

However, the relative safety and tolerability concerns, as well as their slow onset of action (similar to other contemporary antidepressants) pose two main limitations to their use.

Source: Papakostas & Ionescu (2015) Towards new mechanisms: an update on therapeutics for treatment-resistant major depressive disorder. *Mol Psychiatry* 20: 1142–1150

Example 2. Ketamine treatment for TRD



Article

Antidepressant Efficacy of Ketamine in Treatment-Resistant Major Depression: A Two-Site Randomized Controlled Trial

James W. Murrough, M.D.
Dan V. Iosifescu, M.D.
Lee C. Chang, M.D.
Rayan K. Al Jurdi, M.D.
Charles E. Green, Ph.D.
Andrew M. Perez, M.D.
Syed Iqbal, M.D.
Sarah Pillemer, B.A.
Alexandra Foulkes, M.S.
Asim Shah, M.D.
Dennis S. Charney, M.D.
Sanjay J. Mathew, M.D.

Objective: Ketamine, a glutamate *N*-methyl-D-aspartate (NMDA) receptor antagonist, has shown rapid antidepressant effects, but small study groups and inadequate control conditions in prior studies have precluded a definitive conclusion. The authors evaluated the rapid antidepressant efficacy of ketamine in a large group of patients with treatment-resistant major depression.

Method: This was a two-site, parallel-arm, randomized controlled trial of a single infusion of ketamine compared to an active placebo control condition, the anesthetic midazolam. Patients with treatment-resistant major depression experiencing a major depressive episode were randomly assigned under double-blind conditions to receive a single intravenous infusion of ketamine or midazolam in a 2:1 ratio (N=73). The primary outcome was change in depression severity 24 hours after drug administration, as assessed by the Montgomery-Åsberg Depression Rating Scale (MADRS).

Results: The ketamine group had greater improvement in the MADRS score than the midazolam group 24 hours after treatment. After adjustment for baseline scores and site, the MADRS score was lower in the ketamine group than in the midazolam group by 7.95 points (95% confidence interval [CI], 3.20 to 12.71). The likelihood of response at 24 hours was greater with ketamine than with midazolam (odds ratio, 2.18; 95% CI, 1.21 to 4.14), with response rates of 64% and 28%, respectively.

Conclusions: Ketamine demonstrated rapid antidepressant effects in an optimized study design, further supporting NMDA receptor modulation as a novel mechanism for accelerated improvement in severe and chronic forms of depression. More information on response durability and safety is required before implementation in clinical practice.

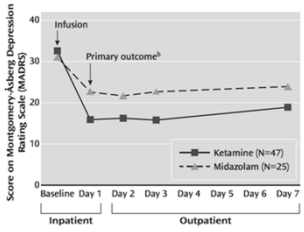
(Am J Psychiatry 2013; 170:1134–1142)

Example 2. Ketamine treatment for TRD

Murrough et al. (2013) confirmed ketamine's antidepressant effects by using midazolam as an active comparator, thereby attempting to minimize functional unblinding due to the side effects associated with the use of ketamine.

In this trial of 73 patients with TRD, ketamine had a high effect in reducing scores on the Montgomery Asberg Depression Rating Scale (MADRS) compared with midazolam (Cohen's d = 0.81).

FIGURE 1. Change in Depression Severity Over Time in Patients With Treatment-Resistant Major Depression Given a Single Infusion of Ketamine or Midazolam[a]

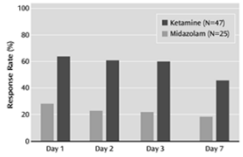


[a] Modified intention-to-treat group. MADRS scores range from 0 to 60, with higher scores indicating a greater severity of symptoms.
[b] Reduction in MADRS score 24 hours after infusion was the primary outcome measure and was significantly greater for the ketamine group than for the midazolam group ($p \leq 0.002$).

Source: Murrough et al (2013) Antidepressant efficacy of ketamine in treatment-resistant major depression: a two-site randomized controlled trial. *Am J Psychiatry* 170:1134–1142.

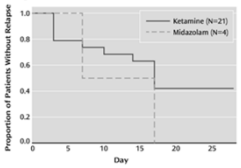
Example 2. Ketamine treatment for TRD

FIGURE 2. Response Rates Over Time in Patients With Treatment-Resistant Major Depression Given a Single Infusion of Ketamine or Midazolam[a]



[a] Modified intention-to-treat group. Response at each time point was defined as a decrease from baseline of at least 50% in score on the Montgomery-Åsberg Depression Rating Scale.

FIGURE 3. Time to Relapse for Responders at Day 7 Among Patients With Treatment-Resistant Major Depression Given a Single Infusion of Ketamine or Midazolam[a]

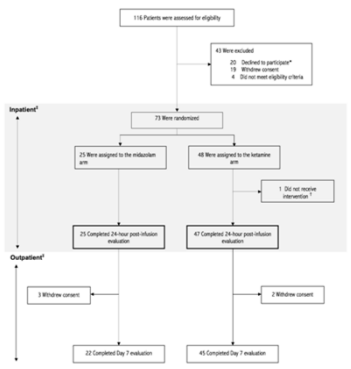


[a] Response was defined as a decrease from baseline of at least 50% in score on the Montgomery-Åsberg Depression Rating Scale (MADRS). Relapse was defined as a MADRS score of 20 or higher maintained for two consecutive visits and meeting criteria for a major depressive episode for 1 week.

The antidepressant effects of ketamine i.v. were significant 24 h following infusion and were sustained for several days. Of particular interest, ketamine has been shown to decrease depressive symptoms patients with anxious depression, suicidal ideation and anhedonia.

Source: Murrough et al (2013) Antidepressant efficacy of ketamine in treatment-resistant major depression: a two-site randomized controlled trial. *Am J Psychiatry* 170:1134–1142.

Example 2. Ketamine treatment for TRD



Source: Murrough et al (2013) Antidepressant efficacy of ketamine in treatment-resistant major depression: a two-site randomized controlled trial. *Am J Psychiatry* 170:1134–1142.

Example 2. Ketamine treatment for TRD

Variable	Ketamine	Midazolam	Test Statistic
	Mean (95% C.I.)[a]	*Mean (95% C.I.)*[b]	
Montgomery-Asberg Depression Rating Scale (MADRS)	17.85 (14.29-21.42)	23.54 (18.29-28.79)	t(64) = 1.88, *P*<0.065
Quick Inventory of Depressive Symptomatology-Self Report	8.58 (6.92-10.24)	11.42 (8.87-13.97)	t(61) = 1.90, *P*<0.062
	Proportion	*Proportion*	
Response	45.7% (*n*=21)	18.2% (*n*=4)	Exact *P*< 0.051
Clinical Global Impression Scale-Improvement	46.7% (*n*=21)	20.0% (*n*=4)	Exact *P*< 0.064
Clinical Global Impression Scale-Severity	44.4% (*n*=20)	15.0% (*n*=3)	Exact *P*< 0.028

Source: Murrough et al (2013) Antidepressant efficacy of ketamine in treatment-resistant major depression: a two-site randomized controlled trial. *Am J Psychiatry* 170:1134–1142.

Planning a clinical trial

Questions:
- What is the primary / secondary outcome?
- What is the intended intervention?
- Treatment: When and for how long?
- Treatment: For whom?
- How many participants are needed for the trial?
- How can potential benefit optimzed while minimizing potential harm?

Answers:
- Precise response variable selection and measurement
- Defining the intervention (e.g. ketamine relative to placebo)
- Study design
- Eligibility criteria
- Sample size estimate / power calculation
- Patient management procedures
- Monitoring for safety and benefit
- Data analysis approaches

Source: Friedman, Furberg and DeMets (1998) Fundamentals of Clinical Trials. Springer, New York. 3rd edition
Penn State Eberly College of Science STAT 509 Design & Analysis of Clinical Trials https://onlinecourses.science.psu.edu/stat509/

Planning a clinical trial

Phase 0 represents pre-clinical testing in animals to obtain pharmacokinetic information.

Phase I trials investigate the effects of various dose levels on humans to provide a description of the pharmacokinetics and pharmacodynamics of the compound, estimate the maximum tolerated dose (MTD), or evaluate the effects of multiple dose levels.

A **Phase II trial** typically investigates preliminary evidence of efficacy and continues to monitor safety. A Phase II trial may be the first time that the agent is administered to patients with the disease of interest.

At the end of Phase II, a decision will be made as to whether or not the drug is promising and development should continue. In the U.S. there will be an **'End of Phase II' meeting** between the pharmaceutical company and the FDA to discuss safety and plans for Phase III studies. Ineffective or unsafe compounds should not proceed into Phase III trials.

Source: Friedman, Furberg and DeMets (1998) Fundamentals of Clinical Trials. Springer, New York. 3rd edition
Penn State Eberly College of Science STAT 509 Design & Analysis of Clinical Trials https://onlinecourses.science.psu.edu/stat509/

Planning a clinical trial

A **Phase III trial** is a rigorous clinical trial with randomization, one or more control groups and definitive clinical endpoints. Phase III trials are often multi-center, accumulating the experience of thousands of patients. Phase III trials address questions of comparative treatment efficacy (CTE). A CTE trial involves a placebo and/or active control group so that precise and valid estimates of differences in clinical outcomes attributable to the investigational therapy can be assessed.

If things go well during Phase III, the company with the license for the compound will submit an application for approval to market the drug. U.S. FDA approval hinges on 'adequate and well-controlled' pivotal Phase III studies that are convincing of safety and efficacy.

A **phase IV trial** or expanded safety (ES) trial, occurs after regulatory approval of the new therapy and could involve >10,000 patients. Such large sample sizes can detect more subtle safety problems for the therapy, if such problems exist.

Source: Friedman, Furberg and DeMets (1998) Fundamentals of Clinical Trials. Springer, New York. 3rd edition
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Planning a clinical trial

- **Superiority trials** are designed to demonstrate that one treatment is more effective than another. This type of study design is often used to test the effectiveness of a treatment compared to placebo.
- **Non-inferiority trials** are designed to demonstrate that a treatment is at least not appreciably worse than another. This type of study design is often employed when comparing a new treatment to an established medical standard of care.
- **Equivalence trials** are designed to demonstrate that one treatment is as effective as another.
- When using a **"parallel groups" design**, each patient receives one treatment; in a **"crossover study" design**, each patient receives several treatments.
- A **longitudinal study** assesses research subjects over two or more points in time; by contrast, a cross-sectional study assesses research subjects at only one point in time (so case-control, cohort, and randomized studies are not cross-sectional).

Source: Friedman, Furberg and DeMets (1998) Fundamentals of Clinical Trials. Springer, New York. 3rd edition
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Animal model for PTSD as a model for research plan and design

Avi Avital, Ph.D

The Bruce Rappaport Faculty of Medicine, Department of Physiology
Techion– Israel Institute of Technology,
Behavioral Neuroscience Lab

Outline

- ☐ **Does stress=stress: Mapping the developmental trajectory for sensitive period.**
- ☐ **Implication of stress-sensitive period in an animal model for PTSD and examining possible treatment.**
- ☐ Recent findings (a surprise…).

Increased vulnerability to psychiatric disorders has been associated with early-life stress.

There is a long history attempting to evaluate the developmental trajectory of stress in humans, but these studies are limited by their retrospective nature.

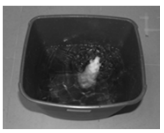
Many animal models evolved for this purpose, in an effort to investigate the existence of a possible hyper-sensitive developmental period for applying a stressor or the developmental programming of the HPA-axis.

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.

⇩

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

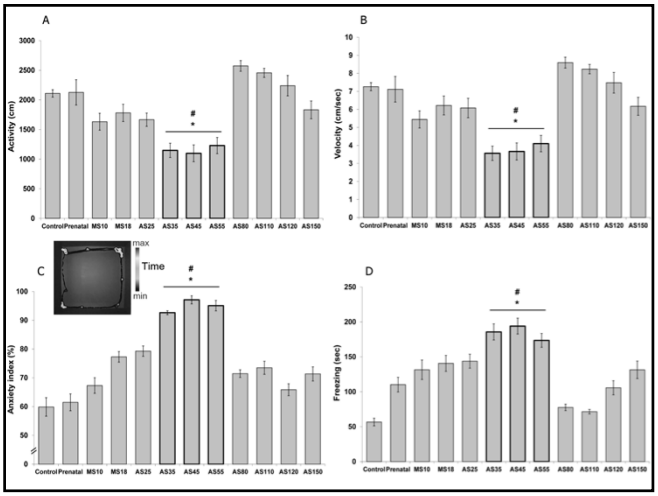
Stress protocol consisted of 3 different stressors applied during 3 consecutive days (Room light set at 1000±25lux):

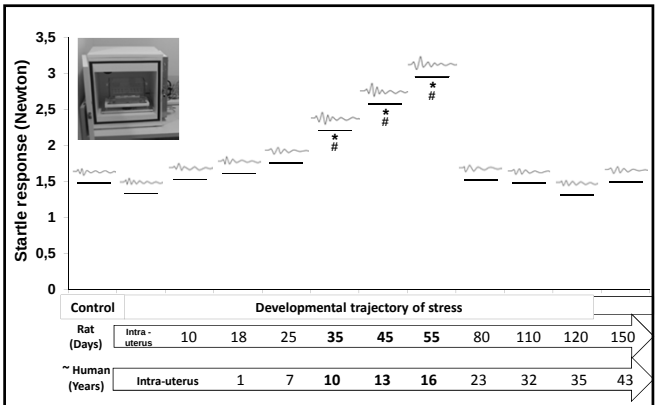


Rats were forced to swim for 15 min, while pregnant rats for 5 min, in a squared water tank: 38 × 30 cm, water depth: 60 cm. Water temperature maintained at 23±1°C.

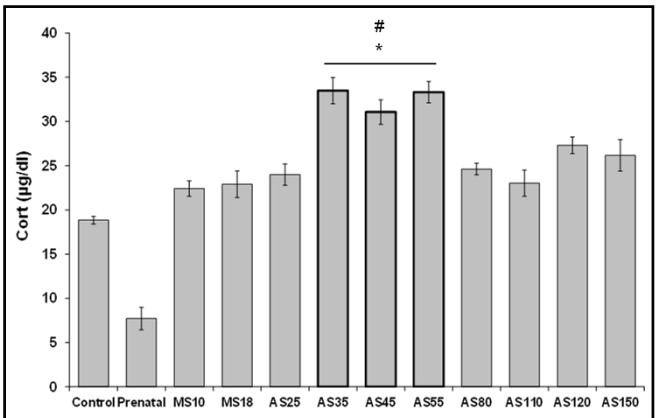
Rats were placed on a platform (10 cm in diameter) elevated 50 cm above floor level, three times for 30 min with 1 hour inter trial interval spent in a resting cage.

Rats were placed in a radial-shaped metal net restrainer 6 cm height, three times for 30 min with 1 hour ITI.





The Startle response: equivalent developmental trajectories of rat and human. Groups AS35-55 showed higher maximal startle response than the controls (**P*<0.001) as well as from the highest (AS25) amongst the other groups (#*P*<0.022).



Serum corticosterone level. Groups AS35-55 showed the highest corticosterone level compared either with the controls (**P*<0.0001), or the AS120 rats that showed the highest corticosterone level amongst all other groups (#*P*<0.001).

To conclude, the important methodology of this study regarding the equivalent acute stress paradigm and testing its developmental-dependant effects in adulthood, allowed us the comparison of the potential stress-sensitive periods and their long-term effects in adulthood.

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.

Methylphenidate and Desipramine Combined Treatment Improves PTSD Symptomatology in a Rat Model

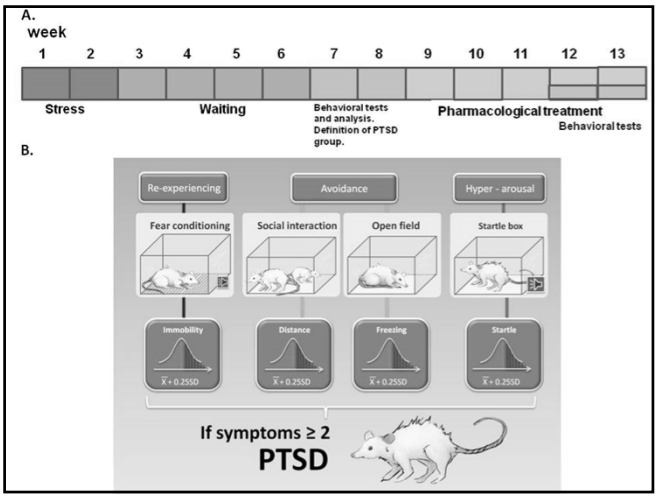
The characteristic symptoms of post-traumatic stress disorder (PTSD) include: re-experiencing, avoidance and hyper-arousal.

Nowadays, the common treatment for PTSD includes various antidepressants. However, these treatments focus on the anxiety, depression, flattened affect or detachment symptoms and less on attention problems.

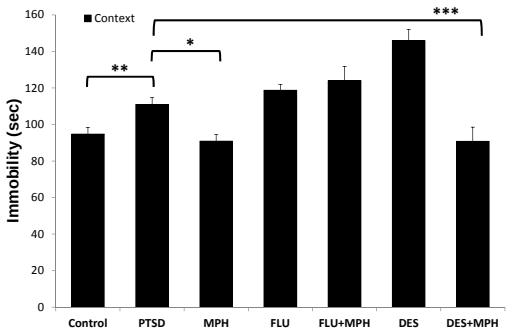
AIMS:

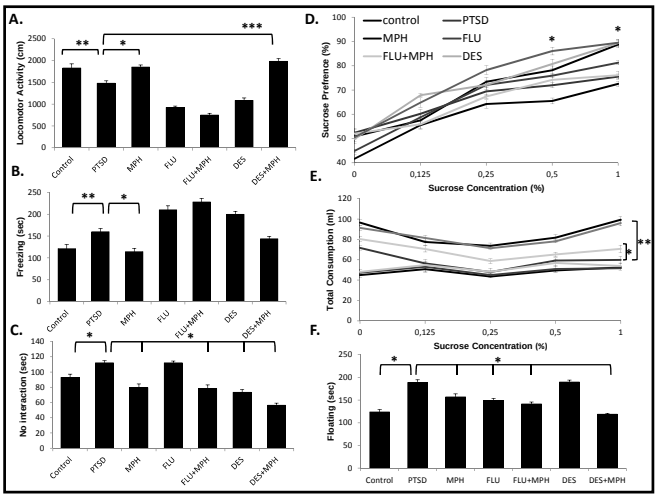
1) Focusing on PTSD symptoms: to establish a comprehensive rat model for PTSD, with two emphasizes: (i) exposure to chronic stress; (ii) definition of PTSD-like animal.

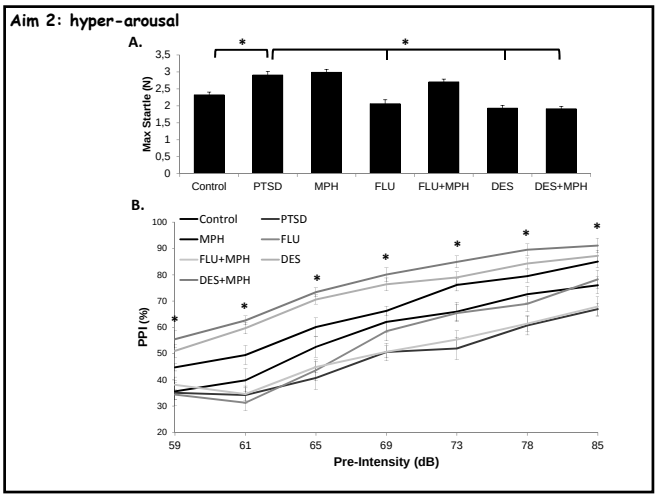
2) To determine whether, in addition to the common antidepressants, Methylphenidate (Ritalin) treatment will affect PTSD core symptoms.

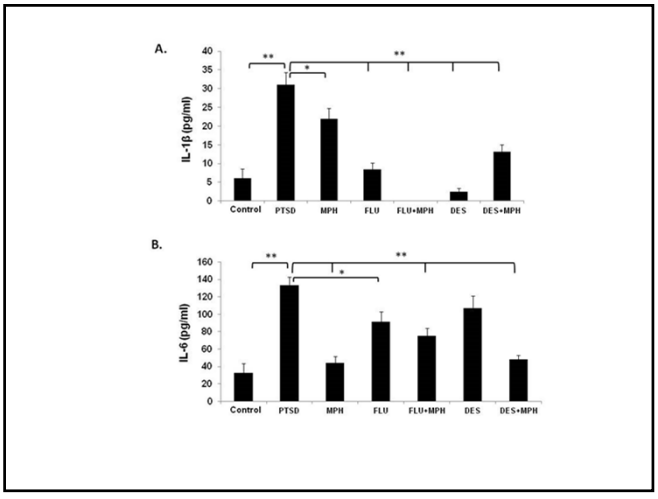


Aim 2: re-experiencing




A.
Locomotor Activity (cm)
Control
PTSD
MPH
FLU
FLU+MPH
DES
DES+MPH
B.
Freezing (sec)
C.
No interaction (sec)
D.
control
PTSD
MPH
FLU
FLU+MPH
DES
Sucrose Prefrence (%)
Sucrose Concentration (%)
E.
Total Consumption (ml)
F.
Floating (sec)


Aim 2: hyper-arousal
A.
Max Startle (N)
Control
PTSD
MPH
FLU
FLU+MPH
DES
DES+MPH
B.
PPI (%)
Pre-Intensity (dB)


A.
IL-1β (pg/ml)
Control
PTSD
MPH
FLU
FLU+MPH
DES
DES+MPH
B.
IL-6 (pg/ml)

Considering the versatile emotional and cognitive symptoms of PTSD, our results suggest a new duo-treatment for PTSD comprised of antidepressant (desipramine) and psycho-stimulant (methylphenidate) that partially share norepinephrine-reuptake-inhibition mechanism.

Acknowledgments:

Students* and post-docs*:

Shani Raphaeli

Talya Dolev

Yael Hazan

Inon Maoz

Dr. Adi Cymerblit-Sabba

Dr. Edward Ram

Behavioral Neuroscience Lab's staff:

Dr. Shlomit Aga-Mizrachi

Mr. Salman Zubedat

This study is partially supported by:

Israel's MOD Directorate for Defense Research & Development (DDR&D)

NIPI
המכון הלאומי לפסיכוביולוגיה בישראל
The National Institute for Psychobiology in Israel

US-Army Research Office (ARO)

ABSTRACTS

Aliieva, Tetiana
Kharkiv Medical Academy of Postgraduate Education

Psychosocial rehabilitation of children and adolescents with deviant behavior

Introduction. Currently the problem of aid and compensation for children and adolescents with deviant behavior is one-sided. All obligations under this psychocorrection contingent assigned to the law enforcement agencies. As a pilot project was established program of psychosocial rehabilitation of adolescents with deviant behavior on the basis of «Ecopark».
Objectives. The project involved 48 adolescents from 12 to 14 years with a variety of behavioral problems.
The aim of the project was to optimize the provision of psycho-social support for children and adolescents with behavioral problems by developing a system of psychological adjustment and social education at the Centre for psychosocial rehabilitation of children and adolescents with psychological, emotional and behavioral disorders, as well as the creation of the necessary conditions that expand the comfort and a safe space for the child to enhance positive impacts and mitigate negative impacts of the social environment.
Methods. The leading role was played by a combination of two areas of work, namely the psycho-correction (correctional educational training, individual therapy, family therapy, animal-assisted therapy) and social work (pet care, occupational therapy, ecotherapy).
Results. In 85.4% of the adolescents showed stabilization of mental and emotional state, reducing aggression, increasing motivation to work. In 56.3% of adolescents - reducing conflict relations in the family.
Conclusions. The non-standard way of psycho-correction allowed organizing a fruitful and creative leisure, which resulted in the reduction of aggression and anxiety, increased motivation for the successful development of new activities and problem-solving skills and conflict situations with peers and family members.

Babkina, Iuliia
Institute of Neurology, Psychiatry and Narcology of the National Academy of Medical Science of Ukraine, Kharkiv

The comorbid arterial hypertension and coronary heart diseases are the most common diseases in epilepsy patient. That pathologies change type of the epileptic seizures, increase number of seizures, complaints and neurological deviations, enhance the processes of peroxidation, depletion of antioxidant systems and the development of oxidative stress. Comorbid cardiovascular diseases leads to pharmacoresistant epilepsy in 99%. Antioxidant therapy proved to be effective in epilepsy patient with comorbid hypertension and coronary heart disease.

Bashynskyi, Oleksandr
Shupyk National Medical Academy of Postgraduate Education, Kyiv

Recently, the attention of psychologists and psychiatrists focused on attempts to quantify the differences of cognitive and emotional deficits in patients with psychotic disorders who also suffered of drug and alcohol abuse. This includes the MSCEIT questionnaire, which determines the degree of development of emotional intelligence. As has been noticed, that differences and dysfunctions of

emotional intellect of patients with psychotic disorders who also suffer drug and alcohol abuse are valuable in pathogenesis of these disorders along with cognitive dysfunction. In this regard, we decided to complement classical technique MSCEIT with the Wechsler test, BPRS and PSP with the purpose of a comprehensive assessment of psycho-pathological disorders. And also to identify potential resource areas in patients with psychotic disorders who also suffer from drug and alcohol abuse required for the subsequent rehabilitation and adaptation. A group of patients with psychotic disorders who also suffered of drug and alcohol abuse will be selected for the study as well as healthy subjects for control. The results will be presented to attention of participants of conference.

Bodelan, Maksym
Odessa Regional Medical Centre of Mental Health
There was developed a software and hardware complex for registration and analysis of tremor. Parameters of tremorogram were studied in normal and pathological conditions. It was found that the tremor values of left and right hands are not symmetrical in both groups: patients and healthy persons; tremorogram has the expressed individual character. Application of this method is of interest for the diagnosis of stress, and also for measuring the treatment of PTSD.

Bojko, Dmytro
Ukrainian Medical Stomatological Academy, Poltava
Autoaggressive behaviour - a serious problem in modern psychiatry. In my research 120 patients with the first episode of a psychosis are included who undergo treatment in the Poltava psychiatric hospital. Except classical scales of an estimation of a clinical picture of disease, the scale of Estberg for an estimation of daily biological rhythms at patients is used. For studying of influence of annual biological rhythms studying of the archival medical documentation of patients with the first episode of a psychosis which took place treatment in hospital in 1997-2007 is spent. As a result research is planned to track influence of biological rhythms on development of autoaggressive behaviour that will help to improve treatment and prophylactic measures.

Bozhuk, Bogdan
Bogomolets National Medical University, Kyiv
Mechanisms of formation of coping behavior in patients with arterial hypertension
Thesis deals with theoretical and experimental investigation of coping strategies in behavior of hospitalized patients with arterial hypertension. In course of the study 110 people were examined, 60 of them got treatment in hospital and the other 50 were treated as outpatients. The peculiarities of formation of coping behavior and behavioral strategies were revealed. It was found that individuals with adaptive coping (productive) required less social support. Also, patients who used coping strategies of problem solving had significantly lower levels of personal and situational anxiety.
In order to provide patients with the psycho-corrective aid based on the received data, special recommendations were worked out. Those ones were aimed at facilitating adaptation of patients to the therapeutic environment of hospital and intensification of productive coping strategies and adaptive behavior. Basically the program contained a number of principles such as comprehensiveness,

succession and phasing. The program was based on the elements of rational and behavioral psychotherapy. The patients under study successfully internalized relaxation and desensitization techniques, learnt how to express their feelings and objectively evaluate environmental factors that may influence the course of their illness and treatment of it.

Bukanova, Tetiana
Shupyk National Medical Academy of Postgraduate Education, Kyiv
Complex treatment of asthenic, phobic anxiety and depressive symptoms in the structure of neurotic disorders

The actuality of the planned work is conditioned by the constant increase in the incidence of nonpsychotic mental disorders, including neurotic, which combine asthenic, phobic anxiety and depressive symptoms. However, the treatment of such disorders according to many studies is not effective enough, including at the stage of hospital treatment. It is not just the presence of residual asthenic, phobic anxiety or depressive symptoms, but, above all, the delayed functional, including social recovery of these patients. However, up to the present day the solution of these tasks is not very good and complete.

The scientific novelty of this work is that for the first time there will be studied the relationship between clinical and psychopathological features and psychopathologic mechanisms of the formation of some neurotic disorders (Category F4); features of disadaptative processes with further identification of focus-targets of psychotherapeutic intervention. The implementation of the algorithm of specialized psychological educational and psychotherapeutic correction in treatment of patients with these disorders at the stage of standard treatment in hospital is of great practical importance.

The aim of the research is to improve the efficiency of treatment of patients with neurotic disorders based on studying their clinical and psychopathologic features with further identification of focus-targets of psychotherapeutic intervention by means of adding psychological educational and psychotherapeutic complex to the standard treatment in hospital. Thus, the planned thesis will contribute to solving the new problem of clinical psychiatry i.e. a quick recovery of patients with neurotic disorders at the stage of hospital treatment by adding psychological educational and psychotherapeutic complex to the standard treatment.

Danilevskaya, Natalia
Zaporizhzhya state medical University
Subthreshold verbal suggestion for treatment PTSD patients

This work is dedicated to study of therapeutic effectiveness and vitality of new method – subthreshold verbal suggestion for treatment patients with PTSD. The choice of therapeutic verbal formulas is conducted according to specific psychological trauma. Also the audio recording of chosen formulas is conducted; sound parameters are subthreshold – not audible – to human perception. These subthreshold verbal guidelines are layed on audio line with neutral content. Patients listen to the aforecited soundtrack with hidden subthreshold verbal formulas. One does not hear verbal guidelines, but perceive them on subconscious level. It allows preventing the induction of flashbacks. Thus patients get therapeutic effect without being reminded about psychological trauma.

Driuchenko, Maiia

Transcarpathian Regional Narcology Dispensary, Uzhhorod
Clinical observation: PTSD as a factor of affective disorders

Clinical case. A patient is a migrant from Donetsk. Reason of a force migration in Zakarpattia - tragic death of husband as a result of battle actions. Remained with two minor children and aged parents. Migration took place 4 months after a tragedy and patient got in the situation of low level of domestic comfort, unemployment and foreign surroundings, having an own house prior to that and stable work with a sufficient income. On this background for a patient insomnia, anxiety and opinions of hypochondria maintenance began to show up. Abnormal psychology symptomatology made progress and purchased the clinically expressed forms; appeared suicidal thoughts. Ambulatory treatment by antidepressants (Paroxetine 40mg), it appeared tranquilizers (Gidazepam 100mg) ineffective. In October, 2014 a patient is hospitalized in psychiatric permanent establishment, the diagnosis of PTSD is set, through a month written in the satisfactory state (des intoxication therapy, Mianserin 60mg, quetiron 400mg). In April 2015 during a routine consultation the patient revealed a steady decline in mood, pessimistic thoughts, anhedonia and reconstruction suicidal disposition. Since depressive disorder patient repeatedly hospitalized, but during the holiday made suicide attempts (poisoning medicines). After resuscitation, activities all returned to the psychiatric hospital for two months of treatment. Psychodiagnostics depression scales revealed severe depressive disorder with psychotic symptoms. The treatment included desintoxication therapy, symptomatic therapy, restorative therapy, Amitriptyline 100mg, Gidazepam 100mg, Amisulpride 400mg, Mianserin 60mg, psychotherapeutic correction. In the process of hospital treatment the patient's condition improved significantly and independently discharged from the recommended outpatient treatment. Successfully continues outpatient treatment (Mianserin 30mg, quetiron 200mg).

Dymshyts, Dmytro
Karazin Kharkiv national university

Patient T., a 52-year-old ATO combatant. The case history includes ischemic stroke, after which T. became vulnerable, prone to hysterical reactions. In 2014 witnessed his fellow-combatant’s death in battle. This resulted in the development of affective-shock reaction with hysterical-depressive stupor: total weakness, shallow breathing, moaning. No somatic neurological damage has been detected. The treatment was inefficient during the first week, but subsequently rapid recovery of speech and motor functions was observed. On hearing about deaths and injuries of colleagues, T. instantly experiences dizziness, weakness, shortness of breath, and death premonitions. Diagnosis: acute reaction to combat stress developed into PTSD.

Fedchenko, Viktoriya
Institute of Neurology, Psychiatry and Narcology of the National Academy of Medical Science of Ukraine, Kharkiv

A comprehensive examination of 79 persons with posttraumatic stress disorder (PTSD) was performed: 47 employees of internal affairs (IA) and 32 antiterrorist operation (ATO) combatants (military of the armed forces of Ukraine and National Guard fighters). Clinical variants of PTSD and types of disease course were determined. In employees of IA authentically prevailed asthenic, hypochondriacal and somatoform variants of PTSD and regressive type of disease course. In ATO fighters it was noted the prevalence of anxiety, dysphoric

and mixed variants of PTSD with progressive and stable types of disease course. An integrated system of medical and psychological rehabilitation was worked out.

Flomin, Yuriy
Bogomolets National Medical University, Kyiv
As a physician engaged in Neurorehabilitation for patients with brain injury (stroke, TBI, hypoxic-ischaemic etc.) I often have to deal with cognitive impairment, affective disorders and personality/behaviour changes. We offer screening as well as in-depth Neuropsychological testing to assess cognitive and mood disorders, prescribe psychotropic drugs and provide follow-up on our patients. As an Assoc. Professor at the Dept. of Neurology I teach residents and do my best to draw their attention to the importance of recognition and appropriate treatment for depression, anxiety, addictive disorders and insomnia. Thus I hope that participation in the ECNP workshop will help enhance both my clinical practice and educational activities.

Galchyn, Kateryna
Zhytomyr regional psychiatric hospital No.1
Posttraumatic syndrome of autism in a child

The author gives the example of occurrence of clinical syndrome of autism in a child aged 7 years as a result of repeated physical violence. The posttraumatic stress as a result of physical violence has led to stable cognitive disorders and social disadaptation of the child. The dominant clinical signs of post-traumatic stress disorder (PTSD) in this case are the regression development as loss of speech, motor skills, occurrence of enuresis, inability of identifying own feelings, sleep disorders, aggressive behaviour, outbursts of anger and limosis. In the present of classic clinical signs of autism the author identifies the differences of mental disorders in the child that are characteristic only of post-traumatic stress.

Gorodokin, Anton
Zaporozhye state medical university
Psychophenomenological profile as basics of selection of methodological support in psychotherapy

In order to form a methodical selection protocol of individually-congruent method of psychotherapy based on conception of psycho-phenomenological profile as predictor of personalization of psychotherapy system 400 patients suffering from various somatoform and psychosomatic disorders were examined, using clinically-psycho-phenomenological, psychodiagnostic, clinical-psychopathological and statistical methods. As a first stage of the study was formed a cluster of diagnostic instruments, aimed on the characteristics of personality response during psychotherapy process. During the second stage, was formed general systematic for most common methods of psychotherapy, according to proportion of appellation to existing forms of personality response integrated in the concept of psycho-phenomenological profile.

Haydabrus, Andriy
Institute of Neurology, Psychiatry and Narcology of the National Academy of Medical Science of Ukraine, Kharkiv
Research work studying clinical and psychopathological features of the course of alcohol dependence (AD) in former serviceman (FS), as bases for improvement

of methods for prevention, treatment and rehabilitation of representatives of the specified contingent.
It was carried out two-phase comparative research of FS and civil patients (CP) with AD. It was established during complex clinical, psychopathological and psychodiagnostic research that FS distinguishes from CP by: the raised frequency comorbid somatic pathology, inclination to relapses of AD and to alcoholic psychoses, and also rather high resistance to therapy of present psychopathological symptoms.
Offers concerning optimization of standards of treatment FS with AD are developed and most important of which are: the maximum reduction of the period between the alcohol intake termination (at exit from hard drinking) and hospitalization; increase of standard period of detoxication (after hard drinking) up to 3 weeks; accent in psychosocial support in post-hospital period: on regularity of therapeutic contacts, on cognitive-behavioral psychotherapy, on the family-focused actions; and also on the help in search of a new, civil workplace.

Hmain, Sofya
Kharkiv National Medical University
Aim: Evaluating the effectiveness of art therapy in treatment of patients with depressive recurrent disorder (RDD).
Objectives: The study involved 150 patients of both genders with RDD. Patients were randomized into 2 groups: group study №1 and study group 2. Research Group №1 received standard therapy, while the study group №2 received art therapy in a complex standard treatment. We have used several types of drawing techniques.
Results: The study revealed a positive effectiveness of art-therapy for patients with RDD.

Kasianova, Anastasiia
Ukrainian Children's Cardiac Center, Kyiv
Surgery-related posttraumatic stress disorder in parents of children with congenital heart defects
Prenatal diagnosis of congenital heart defect (CHD) can lead to maternal and paternal stress during pregnancy. We aimed at evaluating post-traumatic stress disorder (PTSD), depression and anxiety after prenatal diagnosis of CHD and surgery-related PTSD in parents of children undergoing heart surgery. Parents' PTSD forms gradually. The manifestations of psychological maladjustment with time can be transformed into PTSD. The risk of parental PTSD remains at all stages of hospitalization, including prenatal ultrasound CHD diagnostics, heart surgery, stage of intensive care unit and further psychomotor child's follow up. Clinicians need to identify parents at risk of the PTSD at all therapy stages. Psychologists could provide parents with systematic psychological assistance: psychoeducational and family therapy sessions as well as psychopharmacological support.

Korovina, Liliia
Kharkov National Medical University
The dynamics of body weight gain and secondary negative symptoms in patients with paranoid schizophrenia treated by various antipsychotic drugs

The use of second generation antipsychotic drugs in patients with paranoid schizophrenia has highlighted neuroendocrine side effects, such as abdominal obesity, and allowed to differentiate the secondary negative symptoms.
We have explored the dynamics of changes in body weight and secondary negative symptoms in patients with paranoid schizophrenia who were treated with risperidone, amisulpride, quetiapine, clozapine over three years and have increased body weight.
The results obtained allow using a differentiated approach to the subsequent psycho-social rehabilitation of patients and improving the quality of remission.

Kosenko, Kornelia
Odessa Regional Medical Center of Mental Health
Clinical case of PTSD in woman
In connection with the situation in Ukraine, the actual problem is a mental disorder caused by traumatic stressful events from individual mosaic prior-nosologycal psychopathological manifestations to clinically outlined PTSD. Reproduced clinical case illustrates this trend.
Patient 37 years old, appealed with complaints of constant anxiety, fear, depressed mood, sleep disturbance. First condition deteriorated 5 months ago when, amid prolonged quarrels with her husband on the ground of differences in political views and assessment of the political situation, the husband threatened to divorce. Since then began to bother fears about a deteriorating situation in the city and a possible divorce, indication that further destruction of family relationships progression of anxiety-depressive symptoms, which eventually joined nightmares, increased irritability, isolation and the desire to limit contact with the outside world, irritability, a sense of alienation. Anhedonia symptoms become a source of additional trauma patient. There were also attacks paroxysmal anxiety "trigger hook" which became even slight noise of wheels (appeared to fear that her husband left the family and joined the separatist movement). There was a reduction of emotional and social intelligence.
As a result, complex psychopharmacotherapy, and family, problem-oriented and cognitive-behavioral therapy - improved sleep, mood, anxiety and anhedonia symptoms disappeared. Mastered the skills and self-constructive family interaction. Found an understanding with her husband, is planning a successful family and social life.

Koval, Maryna
Shupyk National Medical Academy of Postgraduate Education, Kyiv
Based on the theory of Multiple Intelligences (G. Gardner, 1983), Emotional Intelligence (Mayer and Salovey, 1990), Social Intelligence (Guilford, 60-ies) there is conducted a study of emotional and cognitive deficiency and social functioning in men under such conditions as F 20.00 F 06.3, in the clinical picture of which paranoid hallucinatory syndrome dominates. When selecting patients the age (18-25, 26-32, 33-40, 41-47) and disease duration (up to 3 years, 3-5 years, 5-7 years) were taken into account. To conduct the study, there were used the following techniques: Wechsler intelligence quotient test, Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT), Personal and Social Performance Scale PSP, Brief Psychiatric Rating Scale BPRS. The aim of this work is to identify the loop of various aspects of intelligence and the development of recommendations aimed at their correction.

Krychun, Yuliya
Shupyk National Medical Academy of Postgraduate Education, Kyiv
The level of social functioning and quality of life in patients with obsessive-compulsive disorder

Analyzing the relationship of personal characteristics, characteristics of obsessive-compulsive disorder will enable to develop an individual program of medical and social rehabilitation and increase the effectiveness of therapeutic effects of biological nature. Author is going to examine patients with OCD in age from 18 to 60 years old. Research will be carried out using the following techniques: scale rapid assessment of the severity of OCD - Y-BOCS; scale of evaluation of the quality of life Chaban O.S.; multidimensional scale for perception of social support (MSPSS); questionnaire by Plutchik-Kellerman-Conté "Index of lifestyle"; method of study of the behavior in troubled and difficult for the individual situations within psychohygiene and psyhoprevention programs. The purpose of this work is to study clinical and psychopathological features and social functioning of patients with OCD and to develop recommendations aimed at their correction.

Kupriianova, Larysa
Kharkiv National University of internal affairs
Peculiarities of the behaviour of collaborators of the internal affairs at the time of communication with people, who suffer from physical illnesses and acute frustrations.

The aim of our development is exploitation of the precise algorithms of diagnostics of the symptoms and syndromes of physical illnesses for people, who does not have medical education. It will help to preclude exceeding of the authorities from side of the police and to protect civil rights of the physical patients and people in the situations of acute frustrations.

Kydon, Pavlo
Ukrainian Medical Stomatological Academy, Poltava

The search for new qualitative methods of diagnosis, therapy, rehabilitation for patients with schizophrenia and comorbidly is conducted during last decade. But thorough study of anamnesis of the patient is unchangeable and informative method of diagnosis. Pre-hospital phase in patients with paranoid form of schizophrenia combined with the use of cannabinoids characterized by a variety of personality characteristics, behavioral differences, that affect the course of the clinical picture of primary exacerbation. We have sought to investigate the existing psychopathological symptoms in the prehospital phase and to identify differences in the clinical and psychopathological features in patients, who consumed cannabinoids, and in patients, who had not any dependence on psychoactive substances, based on the study of the stationary case histories of patients diagnosed with schizophrenia, paranoid form and data obtained objective and subjective anamnesis.

Leshchyna, Iryna
Kharkiv National Medical University
The system of prevention and correction neurotic, stress-related mental disorders in young persons.

Purpose of investigation was development of the scientifically determined system of prevention and correction neurotic, stress-related mental disorders in medical students. During research clinical-anamnestic, clinical-psychopathological, psychodiagnostic, social-demographic aspects the state of mental health medical students were studied. The features of clinical structure of non-psychotic mental disorders were found. Markers-targets prevention and correction of neurotic, stress-related mental disorders in medical students were determined.
The system of prevention and correction neurotic, stress-related mental disorders in students was developed, which consists of three blocs: early diagnostics (screening for mass examinations); complex prevention measures (stage-by-stage selection of risk groups, potentiation of markers - resistance, individualized affecting on markers-targets); complex correction programs (removal of pathological changes in emotional, effector-volitional, cognitive spheres, warning of aggravating of psychical disturbances and correction of personality, social features of students).

Lisova, Ievgeniia
Kharkiv Medical Academy of Postgraduate Education
Improvement of diagnosis and treatment of patients with neurasthenia.
During the study the factors and basic links of etiopathogenetical formation of various forms of neurasthenia are identified. The formation depends on the phase in which clinic "fixed" in the period 1 - 3 years and different constitutional somatotype. The pathopsychological factors: intrapersonal conflict; F1 - model of emotional reactions and F2 - pattern of behavior (leading to the formation of different forms according somatotype). The pathophysiological factors: the low reactivity, nonspecific adaptive reactions. We identified objective diagnostic criterion for assessing sanogenesis and general physical condition of patients at the stage of diagnosis, planning and evaluation of applied treatment.
We implemented in practice the integrated system of regenerative therapy which is differentiated according to somatotype and forms of neurasthenia.

Miroshnykova, Olga
Consultations and Diagnostic Centre, Kyiv
Today, I work as a volunteer of the project "Trauma of war", which aims are psychological help to Ukraine civilians affected by the hostilities in the East of Ukraine. I deal with both the migrants from the eastern regions of Ukraine, and with the citizens of Kiev, who have the appropriate inquiries and symptoms. I work with such problems as anxiety, fear, PTSD, sleep disorders (insomnia, nightmares), violation of the psychological and social adaptation. In my work I use the techniques of cognitive-behavioral therapy, art therapy (especially in children), and various techniques of physical and breathing relaxation. If necessary, I add psychopharmacotherapy: SSRI antidepressants, sedatives. I believe that this course will be very useful for my future work in sphere of psychopharmacotherapy.

Miroshnykov, Oleksandr
Institute of Pediatrics, Obstetrics and Gynecology of the National Academy of Medical Sciences of Ukraine, Kyiv
Purpose: The purpose of this study was to explore connection between epileptic encephalopathies (EE) and autistic spectrum disorders (ASD).

Methods: 32 children at the age of 1-3 years with ASD became object of research. Complex examination includes the analysis of clinical-neurophysiological data, video-EEG monitoring, brain MRI.
Results: Signs of epileptiform activity in the routine EEG were registered in 26 children (81%). Clinical seizures were observed in 17 from 32 patients (53%) and 47% of children were seizure free. In group of patients with signs of discharges activity in the EEG 8 had focal epileptiform discharges. Brain MRI identified structural abnormalities in 65% of patients, among them atrophic changes in hemispheres or temporal lobe, arachnoidal cysts, regions of encephalomalacia, corpus callosum hypoplasia.
Conclusion. Epileptic encephalopathies are often diagnosed in children with autistic spectrum disorders. All children with ASD should be examined by video-EEG monitoring and brain MRI.

Mukharovska, Inna
Kiev City Oncological Center
The posttraumatic stress experience in cancer patients
The practice of psychological help for patients with life-threatening diseases found similarities in psychological functioning similar to patients with PTSD, that additionally increased risk of suicide. The present clinical case presents a typical course of posttraumatic experiences in cancer patients. Female with breast cancer in remission ask help because of presents repeated disturbing memories associated with the disease, avoidance situations that reminded disease, severe anxiety before the visits to the doctor, fear of recurrence, hyperwariness by somatic symptoms in themselves or relatives. The intensity of symptoms caused reduction of social functioning and psychological well-being. A course of psychological counseling qualitatively improved psychological state of the patient.

Mykhaylov, Volodymyr
Kharkov National Medical University
Affective disorders in persons who were transferred from Anti Terrorism Operation Territory (ATOT)
The purpose of our research was to study development of affective impairments in persons who were transferred from ATOT.
For conducting of research 60 persons who were transferred from ATOT were involved.
The results that we got showed patho-psychological syndromes diagnosed in the persons of displaced residents from ATOT: astheno-depressive (75.9 %), astheno-anxiety (82.5 %), astheno-phobic (13.2 %), astheno-hypochondriacal (3.3 %).
The multimodal based system of psychotherapeutical correction of depressive spectrum disorders and associated disorders in persons who were transferred from ATOT were developed. This system includes rational, hypnosuggestive, cognitive - behavioral therapy and autogenic-training therapy.

Nikitina, Oksana
Ukrainian Engineering Pedagogics Academy, Kharkiv
The psychological features and content of fears among students-practical psychologists

The present study investigates the actual problem of determining the psychological characteristics and content of fears among modern Ukrainian students-practical psychologists. The importance of studying this problem today lies in the fact that the vast majority of people in Ukrainian society is under stress caused by events occurring in the country. The processes of vital self-determination of youth that revolve around the problem of value and affordability is also powerful factor of stress. We assume that the social context of fears, and the presence of gender- professional features of the fears among students-practical psychologists.

Nosova, Eugenia
Shupyk National Medical Academy of Postgraduate Education, Kyiv
Features of cognitive-emotional deficits in patients with schizophrenia with manic syndrome

Recently, the attention of psychologists and psychiatrists focused on attempts to quantify mental disorders. This includes the MSCEIT questionnaire, which determines the degree of development of emotional intelligence. As has been established, social adaptation of patients with schizophrenia is disrupted to a greater extent due to dysfunction in the sphere of recognition and processing of emotions. Intelligence, for a long time retains its performance. Additionally pronounced decrease in all branches of the questionnaire in schizophrenia can occur at the expense of the violations in the emotional sphere (apathetic changes etc.), and thought disorder in the form of violations of generalization and distraction. Characteristic of schizophrenia schisis affects the emotional side of the psyche. In this regard, decided classical technique MSCEIT to complement the Wechsler test, the methodology of the icons and the method of interpretation of Proverbs and metaphors in modification B. V. Zeigarnik, the purpose of a comprehensive assessment of psycho-pathological disorders. And also to identify potential resource areas in patients with schizophrenia required for the subsequent rehabilitation and adaptation. For study will be selected group of patients with schizophrenia coupled with manic syndrome and healthy subjects for control. The results will be presented to attention of participants of conference.

Oprya, Yevgen
Odessa National Medical University
Many persons are suffering from serious chronic mental illness, such as schizophrenia and bipolar disorder, which has poor response to pharmacotherapy, bad prognosis and leads to disability. Retired mental patients and their families experience severe distress due to patient’s disability. Purpose of work is how to best provide complex treatment-prophylaxis help to these patients by using standards of palliative care to support best quality of their life by decrease emotional stress and improve of social functioning. It is planned to assess level of stress (anxiety) by using HAM-A scale and establish correlation between level of stress and EEG changes (index of activation (the ratio of beta and alpha indexes).

Prutko, Kateryna
Kharkiv National Medical University
Oneirofrenia

My project is researching state called Oneirofrenia, it was discovered by L.J.Meduna. Oneirofrenia is a syndrome that in the overhelming majority of

cases is connecting with schizophrenia pathology, sometimes it can be single pathology. The basic symptom is a disturbance of apperception. The sense modalities mostly affected, in the order of frequency are vision, various proprioceptions and interoception, including body image, smell, hearing. Prognosis is usually good.

Medical case: The patient was in acute state, had a premorbid. Had a persecutory delusion, visual hallucination, she sad about that state "everything was different I was like Alice in wonderland», «I was so scared I can't recognize my husband, children. The colors was different, I can't trust my eyes. "She said that she spoke with her mother and she asked her to take her children to the church, don't explain for what. Woman took her children to the church, and start to screaming there. When the husband took her home she has fallen asleep. When she got up she didn't remember some things that happening yesterday. Also I have her diary with the picture that she draw at this condition. I'm pretty sure that if this diagnoses will be better known in psychiatry practice, for many people we can keep quality of life.

Rusanov, Vladimir
Bogomolets National Medical University, Kyiv
ADHD and role models for children in modern society

In the field of my scientific interests are humanistic and social psychology and psychotherapy. I am interested in classical works by Maslow, Shostrom and Fromm but just watching the modern trends. Also, issues of pedagogy and education of children with hyperkinetic disorders (F90). And first of all, as a resident of Donetsk forced to leave own city, I'm interested in the issue of Posttraumatic stress disorder during the war and how to educate a new generation of Ukrainians, on well-known to all Europeans principles of "liberty, equality, fraternity".

Ryabukhin, Konstantin
Odessa National Medical University
Disharmonious features of gender status in women as predictors of alcohol dependence

A scientific analysis of the factors that precede the development of alcohol dependence in women found the main predictors of female alcohol addiction:
Biological: somatotype asthenic (29.18%), stenoplastyc (24.91%), piknic (14.59%) and mezoplastic (13.88%), the rate of development - somatosexual (74.02 %) and psychosexual (76.16%); asynchrony of sexual development (55.17%) of the surveyed women with alcohol dependence;
Psychological - the predominance of accentuated features of character and gender psychotype of women (hypermasculine, hyperfeminine or infantile).
The program of complex medical-psychological correction was built considering the investigated results.

Rzaeva, Roksana
Military Medical Center of the Northern Region (Kharkiv)
The case of dissociative variant of post-traumatic stress disorder

This clinical case shows how close post-traumatic stress disorder is to psychotic symptoms. The clinical picture of the acute period of dissociative depersonalization in the absence of data history barely distinguishable from endogenous psychosis clinic. The presence of such symptoms in patients with

PTSD draws attention to the issue of differential diagnosis, and poses the problem of determining the basic directions of treatment of such conditions for young professionals.

Sherstobitova, Olga
Shupyk National Medical Academy of Postgraduate Education, Kyiv
Cognitive-emotional deficit in patients with psychoorganic syndrome makes an interest of psychiatrists. MSCEIT questionnaire is used to quantitative evaluation of emotional intellect development degree. In this regard, decided classical technique MSCEIT to complement the Wechsler test, BPRS and PSP, the purpose of a comprehensive assessment of psycho-pathological disorders. And also to identify potential resource areas in patients with psychotic disorders with psychoorganic syndrome required for the subsequent rehabilitation and adaptation. For study will be selected group of patients with psychotic disorders with psychoorganic syndrome and healthy subjects for control. The results will be presented to attention of participants of conference.

Shpachenko, Natalia
Kyiv City Clinical Hospital № 17
The use of SSRI in the treatment of PTSD
PTSD has three main symptoms: 1) repeated anxiety 2) shunning 3) hyperexcitability. Chronic PTSD is characterized by steady, incurable weakening of intellectual activity, psychobiological dysfunction. Depending on the form and severity, the physician should choose the individual program of psychopharmatherapy. Drugs of choice in the treatment of PTSD depend on the presence of comorbid disorders. Following drugs has the level of evidence in psychopharmatherapy of PTSD: monotherapy with SSRIs (sertraline, paroxetine and fluoxetine) monotherapy SNRIs (venlafaxine).
During the research while using of sertraline has been found: Combat PTSD treatment effect compared to placebo was statistically insignificant, but the treatment of PTSD other origin drug has greater efficiency. Sertraline had impact on the symptoms of avoidance and excessive excitability. However, sertraline did not affect the rate of re-experiencing traumatic events.
So, PTSD – is a severe anxiety disorder that characterized by psychobiological dysfunction, frequent suicidal thoughts and high rates of comorbidity and requires necessarily psychotherapeutic support.

Sincha, Katerina
Zaporizhzhya State Medical University
Combination of electroconvulsive therapy and hypnotherapy in the treatment of therapeutically resistant endoreactive depression
This work is dedicated to study of therapeutic validity of combination of electroconvulsive therapy and hypnotherapy in the treatment of therapeutically resistant endoreactive depression. The special technique was developed. One minute before applying anesthesia, the patients were asked to concentrate on (afflictive) painful experiences. Then the electroconvulsive therapy with anesthesia and muscle relaxation were conducted. During anesthesia recovery patients were affected by hypnotic suggestion with selected therapeutic formulas. As a result of therapy, the primary effect is noted after first session, and manifest pronounced effect after third session. The mood was much improved and the experiences of psychological trauma were eliminated.

Skorbach, Iryna
Zhytomyr Psychiatric Hospital №1
Clinical case of the post-traumatic stress disorder
The patient, I, 34, was admitted for hospital treatment 24 November 2014 after stressful events that took place in summer 2014 in Donetsk, where there was a loud explosion at work. The diagnosis on admission: PTSD, asthenic-depressive syndrome. From anamnesis: anxiety after the stressful events, fear, disturbed sleep, decreased appetite and mood, lost weight, increased fixation on memories appeared. Mental status on admission: in consciousness. Correctly oriented. The patient went in the room, sighing, didn't sit down at the doctor's table, explaining that by the severe anxiety. Asthenized. The pace of mental activity is slowed, thinking sequential, no delusional symptoms. Disorders of perception are not showed. Attention dispersed. Memory reduced. Intelligence - norm. Criticism to the disease saved. Somatic, neurological status - normal.
Therapeutic plan: the selection on leading syndrome of biological therapy (not narcotic drugs against anxiety) and the application of CBT-psychotherapy (formulation, increased tolerance window to work with traumatic memories - technology in imagination, the formation of a new page of life).
Conclusions: The successful harmonious combination of medical therapy and systematic psychotherapeutic support gave the 100% recovery results and the formation of a new life!

Smal, Evgeny
Maxim Gorky Donetsk National Medical University
Predicting teo-year outcome in the first-episode psychosis
The problem of the first-episode psychosis (FEP) is highly relevant due to relative unpredictability of its outcomes.
According to the study of 237 patients with FEP we constructed a mathematical model for predicting two-year clinical and functional outcomes. We analyzed 107 outcome's predictors. The most significant indicators are: the duration of untreated psychosis, the level of prodromal symptoms (SOPS), especially of treatment and rehabilitation, patient's clinical status after relief of positive symptoms, insight level (SUMD) and quality of life (WHOQOL-BRIEF). The sensitivity of the model 78,8% (95% CI, 62,8%–91,2%), specificity – 76,6% (95% CI 69,6%–82,9%).

Sotnichenko, Viktoriia
Ukrainian Scientific Research Institute of Social and Forensic Psychiatry and Drug Abuse, Kyiv
The number of refugees from the eastern regions of Ukraine is growing every day. Trauma is common among individuals with a severe mental disorder, but clinicians frequently overlook trauma and the diagnosis of PTSD. The aim of the study is to examine whether patients with schizophrenia who were forced to leave home and hospitalized due to worsening of schizophrenia have symptoms of PTSD. Clinical case demonstrates difficulty of using assessment scales for trauma and PTSD for the general population among people with schizophrenia in the routine evaluation in inpatient units, choice of pharmacotherapy and psychotherapy.

Syromiatnikova, Nataliia
Dnipropetrovsk Medical Academy

Evoked potentials in first-episode schizophrenia patients: relation between clinical status and treatment

Evoked potentials (EPs) reflect electrical brain activity during cognitive processing that is impaired in first-episode schizophrenia patients (FESP). We assessed EPs compared with PANSS in 40 FESP during acute period and after six months depending on clinical status and treatment. 57,5% received risperidone, olanzapine or quetiapine; 42,5% received haloperidol. The greatest changes were in P200, P300, N400 EPs. Specific cognitive functioning changes appears to involve auditory system. Clinical variations are reflected in visual system. Visual N200, P300, N400 amplitudes are the markers of psychotic clinical state. Auditory P300, N400 are specific markers of the disease. EPs are more sensitive to treatment with atypical antipsychotics.

Vashkite, Inna
Kharkiv Medical Academy of Postgraduate Education

The differential model of psychological correction included the natural and premature factors of mental and behavioral disorders in children and adolescents

Educational Objectives. Nonpsychotic mental disorders in children, bio-psycho-social assistance to children with mental and behavioral disorders, Center for comprehensive psychosocial rehabilitation of children, medical and psychological support, multi-modal system of providing medical and psychological assistance, psychotherapy is combined with animal-assisted therapy, psychocorrectional work in the «in / out door» system.

Purpose. Develop a medical and psychological treatment system, support and prophylaxis disadaptive psychological disorders in children.

Methods. Diagnostic and advisory work, correctional work, rehabilitation work, social and psychological work, methodical work.

Results. After the medical-psychological adjustment in four study groups (children with F90.0 – 1st group, F94 – 2nd group, F81 – 3rd group and F82 – 4th group) the following results were obtained: Positive "+" marker of social adaptation (the stabilization of family relationships, positive academic performance and normalization of inter-personal relationships with peers) in 1st group was 74,5%, in 2nd group – 86,0%, in 3rd group – 50,0% and in 4th group – 48,1%;

Conclusions. 1.The system of medical and psychological support for children with mental and behavioral disorders. 2.The basic criteria for the effectiveness of medical and psychological treatment: the formation of a constructive type of family relationships and social adaptation. 3.Testing results on the primary stage of the work of the Center has demonstrated its effectiveness in 74.5% of children diagnosed with F 90, in 86.0% - with F 94, in 50.0% - with F 81 and in 48.1% with F 82, who underwent medical and psychological correction.

Vlokh, Sofiya
Danylo Halytsky Lviv National Medical University

The level of anxiety and depression in the prenatal period as the predictorial rates of postpartum mental disorders

Aim: To reveal the correlation of anxiety and depression during pregnancy with the occurrence of psychiatric disorders in the postpartum period.

Background: By the epidemiological studies carried out in the last decade the rapid spread of depressive and anxiety disorders in women during and after pregnancy has been found. At the conditions of growing up of the social and

psychological stresses, the women mental health problems are one of the most important.
Methods: Anamnestic method of data collection with carrying out of the psychiatric interview; method of psychodynamic diagnostics with the questioning; statistical methods of results processing.
Expected results: Clarification of the correlation of anxiety and depression during pregnancy with the occurrence of psychiatric disorders in the postpartum period. Establishing of the levels of anxiety and depression at which the psychiatric disorders in the postpartum period definitely arise.

Voloshchuk, Diana
Odessa National Medical University
Psychological protective mechasnisms in relatives of patients with vascular dementia
On the basis of Odessa Medical Centre of Mental Health, we investigated the types of protective mechanisms in 193 relatives of patients with vascular dementia whom we divided into two groups: male (G1) and female (G2). It was established that in G2 in most cases there were defence mechanisms of "denial" (85.28%) and "regression" (74.96%), indicating a lack of awareness and consciousness exclusion from events and facts that cause psychological pain when they are recognized. In men of G2 there were mostly protective mechanisms of "displacement" (65.47%) and "projection" (84.63%) connected with the "intellectualization (rationalization)" (75.34%).

Vovk, Volodymyr
Bogomolets National Medical University, Kyiv
Use of Phenibut as the catalyst of psychotherapeutic process for patients with PTSD
It is known that in treatment of PTSD allocate 3 stages: stabilization of a condition of the patient, psychotherapeutic work with a trauma, adaptations to changes in life. Often stabilization of a psycho-emotional condition of the patient requires 3-5 psychotherapeutic sessions, and for work with a trauma of 5-10 meetings depending on the used psychotherapeutic approach. Need for such number of sessions it is caused by a high level of uneasiness of patients, physical and mental exhaustion in a traumatization corollary, weakening of the emotional and strong-willed sphere.
The idea and innovation of the author consists in use of Phenibut (the ATX code - N05BX) for acceleration of passing of stages of treatment by the patient on the one hand and treatment upgrading – with another. This effect is reached due to complex nootropic and anxiolytic action of a preparation in the absence of the sedative. That gives the chance to describe clinical action of a preparation as strengthening of the emotionally-strong-willed sphere in a combination with strengthening of the mental sphere. Purpose of a course of Phenibut in combination with psychotherapeutic work, according to the author, has to accelerate passing of the first stage to 1-2, and the second stage to 4-7 psychotherapeutic sessions. That will give the chance more quickly and efficiently to give help in conditions of a lack of psychotherapeutic staff.

Vozny, Denis
Odessa National Medical University
Organization of help to patients with alcohol addiction taking into account the risk factors of recurrence

296 men aged from 28 till 60 years with the diagnosis alcoholic addiction took part in research. All studied faces were divided into 2 groups by method of blind randomization: the studied group and comparative group. During research clinical features of alcoholic addiction are revealed, biological, social and psychological factors of failure of remission at men with alcoholic addiction are defined. The program of leveling of pathological factors of failure of remissions at men with alcoholic addiction in the studied group is created. Efficiency of the program is proved by duration and quality of remissions.

Vyglazova, Olga
Institute of Neurology, Psychiatry and Narcology of the National Academy of Medical Science of Ukraine, Kharkiv
OCD with delusions, schizophrenia or OCD comorbid with schizophrenia?
Patient of 35 years old, married, daughter of 5 years old. 5 years ago was successfully treated of opioid and cannabinoid dependence. After incident of poisoning by household chemicals with whole family he got obsessive thoughts and fears about chemical contamination and danger in his flat. He made different examinations and attempts of cleaning even with experts. He tried to convince family to change apartment and finally moved to his parent by himself, as he couldn't eat and sleep normally at his flat and constantly tried to convinced, check and protect his family with feeling of guiltiness, anxiety and fears. He understood that his fears and thoughts are based, but it was "easier to change circumstances than struggle with own feelings". Finally patient was consulted by psychiatrist and agreed to be hospitalized in psychiatry hospital, "but in 2 weeks, after Christmas -7th January", he got quetiapine 150 mg per day. 6th of January patient committed suicide. Could be suicide predicted and prevented with right diagnosis and strategy of cure?

Zubatiuk, Oksana
Shupyk National Medical Academy of Postgraduate Education, Kyiv
Social functioning and life quality of our patients is the main goal of modern treatment and rehabilitation programs. The goal of planned research is to study emotional-cognitive deficiency of patients with depressive-paranoid symptoms as part of schizophrenia, schizoaffective disorder and severe depressive episode with psychotic symptoms in order to detect "resource zones". Patients in psychiatric hospital will undergo assessment while being in remission and psychotic symptoms reduction. We use the following psychometric scales: BPRS, PSP, WAIS test, MSCEIT (scales perceiving and managing emotions). Received data will be analyzed in order to find correlation of severity of clinical symptoms, nosology, length of disease and level of social functioning with particular structure of emotional-cognitive deficiency. In future "resource zones" can be used as a «target» of psychosocial manipulation.