RESILIENCE IN PREGNANCY: MUSIC AS AN AGENT IN DOPAMINE, OXYTOCIN AND GROWTH HORMONE PRODUCTION

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This paper is a short review of current research on the influence of music on resilience in pregnancy and its consequential effect on the production of dopamine, oxytocin and growth hormone in pregnant women. The importance of resilience in pregnancy is discussed first, as is the prenatal bonding and its impact on the future mental and physical health of mothers and babies. Finally, most notable studies exploring the music influence on oxytocin, dopamine and growth hormone are discussed and necessary future developments are proposed.

THE QUEST FOR SYSTEMS THEORY: BRIDGING PRACTICAL PSYCHOPHARMACOLOGY AND COMPUTATIONAL BIO-PSYCHIATRY - THE EXAMPLE OF ALCOHOL WITHDRAWAL

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The wealth of data by biotechnologies in psychiatry justifies a field like "theoretical psychiatry". However, clinical experience must also be represented in this field. One important pillar for theory building might be Systems science that has collected many methods of formal modeling and simulation of a heterogenous set of real systems. Here the integrative potential of synergetics as one successful approach in the field of systems sciences is demonstrated with regard to non-linear state tansitions of the mind after consumption of psychedelic substances. Also the utility for qualitative modelling of clinical observations in alcohol withdrawal is shown by the application of the concept of a "neurochemical mobile" that captures the clinical stages of this syndrome and relates them to neurochemistry. This model can be formalized and has been tested already by usual methods of computational science. Within the conceptual framework with this model, also the conditions and dynamics other mental disorders can be explored and understood consistently.

It is concluded that philosophically sound and systems-based efforts towards a theoretical psychiatry could improve understanding of mind and brain with regards health and disease.

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TREATMENT OF RESISTANT AND ULTRA RESISTANT SCHIZOPHRENIA

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Schizophrenia is a psychiatric disease which affects one percent of population. It is most common in young adults. It is primarily treated with typical and atypical antipsychotics. Resistant schizophrenia is a condition diagnosed after no response is noticed to two different antipsychotics of which one is atypical. The treatment has to be undertaken with adequate doses and duration of therapy. Clozapine is the golden standard in the treatment of therapy-resistant schizophrenia. It has shown its superiority among other antipsychotics in various studies. Aside from greater effectiveness, advantages include absence of extrapyramidal side effects. During clozapine treatment, regular blood tests should be performed as a screening method for agranulocytosis. Twenty to thirty percent od schizophrenia patients suffer from treatment resistant schizophrenia. Sixty percent of the latter ones show no therapeutic response to clozapine. In conclusion twelve to eighteen percent of all patients suffering from schizophrenia show no response to any form of treatment. Attempts to augment clozapine effectiveness are being made by

increasing the dose of monotherapy, using antipsychotic polipharmacy or adding other types of drugs to clozapine. Unfortunately, these augmentation methods have not yet proven themselves to be effective enough to be added to standard therapy algorithms. On the other hand, electroconvulsive therapy is neuromodulatory method that shows promise in increasing therapeutic success. Although many methods of treatment are being researched, therapy-resistant schizophrenia remains a clinical challenge which affects a significant percentage of population and will require additional research.

Key words: clozapine - electroconvulsive therapy - resistance schizophrenia - treatment

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HYPERPROLACTINEMIA AND ANTIPSYCHOTICS IN PATIENTS WITH HASHIMOTO'S THYROIDITIS AND SCHIZOPHRENIA

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Background: Aim of the study is to analyze risks of hyperprolactinemia (HPRL) in antipsychotic treatment, to identify an association between the antipsychotic therapy (AT) and HPRL in Hashimoto's patients receiving AT, to indentify the association of HPRL and other laboratory parameters in patients with Hashimoto's thyroiditis (HT) and schizophrenia receiving AT.

Materials and methods: We studied 17 patients with HT in comorbidity with schizophrenia receiving AT (mean age 46.5 ± 12.8 years). Different laboratory parameters such as anti-thyroid peroxidase antibodies (antiTPO), anti-thyroglobulin antibodies (antiTG), thyroid stimulating hormone (TSH), free thyroxine (FT4), free triiodothyronine (FT3) and prolactin (PRL) were studied.

Results: The level of PRL in the studied group was increased 1191 [734.7; 1932.9] mIU/l as well as the levels of antiTG 108.2 [9.2; 221.9] IU/ml and antiTPO 44.5 [3.3; 209.8] IU/ml. Thus, patients were devided into 3 groups by the degree of risk of HPRL from the drugs - without risk, low and high risks. The correlation analysis detected the inverse significant correlation (R=-0,51; p=0,037) between drug-associated risks of HPRL and PRL levels in studied group. At the same time, we detected a positive significant correlation between levels of PRL and FT4 in studied group (R=0,53; p=0,03). The correlations between levels of prolactin and other parameters such as TSH, FT3, antiTPO, antiTG, antiTSH receptor antibodies were not significant.

Conclusions: 1.HPRL in our study wasn't associated with receiving of antipsychotic drugs with high risk of it. 2.We have find a significant positive correlation between the levels of prolactin and free thyroxine. It cannot be ruled out that antipsychotics may interfere with prolactin metabolism, which creates a false effect of a positive correlation between prolactin and free thyroxine levels.

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A PROSPECTIVE HOSPITAL BASED STUDY ON C-REACTIVE PROTEIN AS A RESPONSE PREDICTOR OF ANTIDEPRESSANT TREATMENT IN DRUG NAIVE PATIENTS OF MAJOR DEPRESSIVE DISORDER

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Background: C-reactive protein (CRP) is an acute phase reactant that is implicated in the pathogenesis of Major Depressive Disorder (MDD), due to its role in the execution of various important neurological events, including neurogenesis, mediation of neural plasticity and synaptic transmission. This study was conducted to determine the relation between level of CRP to remission rates after antidepressant therapy.