

or more than one oral antipsychotic (OR 4.57 [2.22-9.39]), visiting the emergency department more than once (OR 8.7 [2.64-28.68]), and admission to the psychiatry unit (OR 13.91 [3.17-60.94]). In addition, those following up in PROP were younger and less likely to be in the oldest age group (over 54 years) [OR 0.11 (0.01-0.93)], less likely to be females (OR 0.39 [0.18-0.81]), and less likely to be diagnosed with “other psychotic disorder” as compared to schizophrenia (OR 0.14 [0.03 – 0.62]).

Conclusions: PROP was the first community treatment program to use the principles of assertive outreach in Lebanon. Our findings highlight that the assertive out-reach model of care is applicable to its target population in the context of psychiatric care in Lebanon, namely young individuals with psychosis, higher comorbidities and a severe course of illness.

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EPP0269

Cascadic failure and preferential decay via pruning mediated percolation on interdependent networks: implications for schizophrenia

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Introduction: During adolescence the brain is dynamically changing. Destabilization and acceleration of the normal adolescent synaptic pruning process is likely a contributing factor to the neuropathology of schizophrenia. Details on whether normal pruning effects weaker synapses more or uniformly all synapses with different strengths, needs to be further evaluated. Widespread impairment in structural connectivity in schizophrenic patients involving several cortical and subcortical areas, has been previously described. In this computational study, we investigated a stochastic percolation process in interdependent networks, motivated by pathological synaptic pruning. We examined preferential decay in the connectivity decremental process, as well as differential pruning in interconnected subnetworks. Finally, the speed of the percolation process, as well as the potential for pharmacological interventions of percolation in random networks was explored. Statistical structural properties of decaying networks pinpointed several network attributes which the disintegration and phase transitions qualitatively depended on.

Objectives: The following objectives were explored: 1.) Apart from a random percolation process, we investigated preferential decay of the connections. We introduced different percolation rules for various connection types. 2.) Based on previous experimental results, we assumed that different interconnected neural subpopulations prune differently, therefore we explored differential pruning process in the subnetworks. 3.) The speed of the percolation was

studied and the pharmacological synaptic connectivity change was also analyzed.

Methods: We considered two inter-connected randomly connected networks, where the connections were removed during the percolation process. Simulations were partially performed using Octave on a Lenovo Thinkpad running the Linux operating system and partially performed on a supercomputer at UPPMAX (NAISS Small Compute 2023 Dnr: NAISS 2023/22-102).

Results: We found that the coupled network system shows rich percolation behaviors with phase transitions for various coupling strength and coupling patterns. The phase transitions of both layers are altered qualitatively between discontinuous, mixed and continuous. Recursively developing percolation in interdependent networks can cause complete fragmentation of these networks, resulting in cascadic failure which might be related to schizophrenia symptoms.

Conclusions: This computational study analyzes the pruning-mediated percolation in interdependent neural networks. Consequences of the pathological overpruning were related to the attributes of the interdependent network properties. Implications for schizophrenia development and predictions for compensational iatrogenic percolation was also pinpointed and discussed.

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EPP0270

Deep brain stimulation and psychosis as side effect: A case study

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Introduction: Deep brain stimulation (DBS) of the subthalamic nucleus (STN) is a therapeutic method used for decades in neurological diseases such as Parkinson’s disease (PD), Huntington’s disease (HD) or dystonia. HD is a rare, inherited, neurodegenerative condition that causes progressive motor deficits, psychiatric symptoms, and cognitive impairment.

Objectives: Moreover, after DBS as a psychiatric side effect has been marked and the etiology of that side effect is not well-understood.

Methods: A case study of a 51 years old male is presented, who developed involuntary movements, for the first time at the age of 17, being diagnosed with Chorea Huntington, was treated with medication without improvement of the symptoms, such as rigidity and bradykinesia. After ten years, based on guidelines, he was treated with DBS, the outcome of which showed complete improvement of neurological symptomatology. Nevertheless, he started to present delusional ideas of reference with his siblings, sleep disturbance, dysphoria and agitation.

Results: Obviously, DBS improved neurological symptomatology permanently. The medical history of our patient has shown the recurrence of psychiatric symptoms as a few mandatory psychiatric