

be a vulnerability factor in schizophrenia. Taking these findings together cognitive impairments are increasingly seen as potential targets for pharmacological and psychosocial treatment and rehabilitation. This gains especially importance since recent studies have shown, that cognitive deficits are a major factor in impaired social and work function. In this contribution several key issues for cognitive rehabilitation in psychotic patients are discussed and different intervention approaches are outlined and reviewed with regard to their efficacy and effectiveness. Open questions concern issues of generalisation, transfer and maintenance, their integration with more comprehensive psychosocial rehabilitation programmes and their optimal combination with atypical neuroleptics.

### S21.02

#### COGNITIVE DYSFUNCTIONS IN PSYCHOTIC PATIENTS: RELATIONSHIP WITH SYMPTOMS AND ANTIPSYCHOTIC TREATMENT

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Cognitive dysfunctions in psychotic patients are associated with poor social functioning and outcome. They have received increasing attention as limiting factors in rehabilitation and psychotherapeutic programs.

An interdependence among cognitive dysfunctions, psychopathology and social disability has been hypothesized by many authors; however, empirical findings have been reported supporting the alternative view that they represent separate dimensions of impairment. As a matter of fact improvement in psychopathology induced by pharmacological treatment is not always paralleled by a favorable modification of cognitive and social functioning.

These latter domains have been targeted by treatment with novel antipsychotics. Most of the studies assessing the impact of these drugs on cognition in comparison with standard neuroleptics support the view that they are superior in improving cognitive functioning. It has been hypothesized that this superiority is related to a lower frequency of extrapyramidal side effects and to the presence of a practice-related learning effect, not found for standard neuroleptics.

We investigated the effects of treatment with novel antipsychotics or low doses of standard neuroleptics on several cognitive domains, including attention/short-term memory, executive functions and learning of recurring sequences. According to our findings, both treatments improved attention and some aspects of executive functioning, in the absence of any detrimental effect on learning.

### S21.03

#### HEMISPHERIC ASYMMETRIES AND PSYCHOTISM

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No abstract was available at the time of printing.

### S21.04

#### A NEUROPHYSIOLOGICAL FRAMEWORK FOR PSYCHOSIS

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There is no generally accepted etiological model of the pathogenesis of productive psychotic symptoms. We explored the presently discussed neurodevelopmental model, comparing EEG data from

normal juveniles at three ages with EEG data of medication-naïve, young, first-episode schizophrenic patients.

Basic assumptions are: 1) developmental EEG changes reflect the level of attained complexity of cortico-cortical connectivity, of neuronal networks, and, at each moment, their momentary accessibility; 2) neurodevelopmental abnormalities, i.e., acquired deviations in organisation and reorganisation of cortico-cortical connectivity during development, might become reactivated by a multiplicity of factors in later life. In our study, the schizophrenics showed lower delta-theta EEG centroids, and higher alpha and beta EEG centroids, suggesting a functional dissociation, and partial similarities in EEG delta-theta and beta reactivity with the 11-year olds, and in EEG alpha reactivity with the 13-year olds. Within the framework of the model, our results suggest multifactorially elicited imbalances in the level of excitability of neuronal networks in schizophrenia, resulting in network activation at dissociated complexity levels, partially regressed and partially prematurely developed. It is suggested that age- and/or state-inadequate representations for coping with realities become activated, and thus become manifest as productive schizophrenic symptoms. This constitutes partial support for the neurodevelopmental hypothesis.

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## W03. Euro PoP 3rd Meeting: Education and training in Psychiatry Europe (undergraduate teaching and training)

*Chairs:* A.H. Ghodse (UK), C. Höschl (CZ)

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### W03.01

#### PROBLEMS OF THE UNDERGRADUATE TRAINING IN PSYCHIATRY IN THE CZECH REPUBLIC

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The major objectives of undergraduate education in psychiatry are to impart knowledge, to educate attitudes and to train skills. The balance among these three goals is a matter of discussion and often also controversy. The undergraduate programmes at particular medical schools depend in a substantial part on tradition of the department and experience of the faculty.

This paper will present the outline of the Programme in psychiatry for medical students at one of 7 Czech Medical Schools as a model which will reveal the strong and weak points in the current standard system.

Psychiatry is taught in a course that spans two terms: the summer term in the 4-th year of the Medical School (8th term) and the winter term in the 5th year (9th term) of the curriculum. In both terms a total of 99 hours are available. They include 16 hours of formal lectures, and the rest is allotted for practical training and seminars. The formal lecture are supposed to cover the whole area of clinical psychiatry and include a thorough instruction in "general" and "special" psychiatric topics: psychopathology, methods of diagnostics and treatment, major ICD 10 diagnostic groups and individual categories. The lectures are presented for the whole class. Practical training is organized in 7 or 10 distributed blocks, that last 4 hours. Students work with patients at wards of the Psychiatric Clinic (60 beds) in groups of 4–8 persons.

The strength of this program may be the focus on a careful evaluation of psychopathology and a comparatively thorough discussion of patients during practical training. The weakness is its knowledge-centered quality, with fluctuating and sometimes