Schizophrenia research: Ethical questions

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Although the ethical issues concerning schizophrenia research have evolved considerably over the last decade, there are many questions that remain only incompletly resolved.

Ethical concerns involved in schizophrenia research have been raised from the doubts about the competency of the potential research participants to valid informed consent. Another issues addressed in this presentation are drug discontinuation, medication-free intervals and placebo control groups in research on schizophrenia, problem of financial payments to participants in clinical research, consequences of exclusion of potentially suicidal patients from biological and therapeutical research, question of research approaches to prodromal and early phase of schizophrenia and discrimination against the individuals with the potential genetic risk for schizophrenia.

Recent studies suggest that the strongest predictors of decisional incompetency of patients with schizophrenia are cognitive impairment and severity of negative symptoms. On the other hand, age, education, severity of positive and depressive symptoms and level of insight have only minimal predictive value. We can also say that the presence of diagnosis of schizophrenia is not enough to indicate that a patient is unable to give valid consent to research participation.

Although we must confirm that many questions of etiology, prevention or treatment of schiziphrenia are not satisfactory resolved just because we are not able to realize ethically acceptable studies, we must hope that development in this new area of schizophrenia research will improve the risk/benefit ratio of research approaches and bring clearly defined values, guidelines and standards.

An objective diagnostic decision support for schizophrenia

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Background and aims: This method rests on a 50 year long tradition of Psychophysiological experiments at the Dept of Psychiatry in Lund, Sweden. Our branch has focused on Psychoacoustics since 1983, and found significant aberrant functioning of auditory perceptual mechanisms in schizophrenia. Some of these are possible to assess by ABR (auditory brain-stem responses). The assessments may be used to support the diagnostic decision process by demonstrating a biological dysfunction typical for the disease.

Method: ABR measurements of twenty-three paranoid schizophrenics and matched controls for age and sex were compared. Eleven patented complex auditory stimuli, which schizophrenics earlier have been shown to perceive incorrectly, were presented. The ABR-measuring technique has been specifically adapted for the purpose.

Results: When subjects were presented with a standard complex stimulus and a high-pass filtered one, schizophrenics showed statistically significant aberrances for wave V of the latter in the ABR, corresponding to the activity of colliculus inferior of the brain-stem. Furthermore, there was a significant change of activity regarding the two sides of the brain-stem, indicating a change of perceptual (grouping) activity in them.

Conclusions: This finding is just one example within the SchizoDetect method, aimed at helping medical personnel to ascertain the diagnosis of schizophrenia. It shows that different complex sound stimuli are treated in specific ways by schizophrenic patients. Together with the results from the ten remaining stimuli and further details of the ABR-curves, a diagnostic validity well over 90% has been achieved up till now.

Encoding deficit during face processing within the fusiform face area in schizophrenia

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Background and aims: Face processing is crucial for social interaction, but impaired in schizophrenia in terms of delays and misperceptions of identity and affective content. One important functional region for early stages of human face processing is the right fusiform face area. Thus, this region might be affected in schizophrenia. Aim of the study was to investigate whether face processing deficits are related to dysfunctions of the right fusiform face area in schizophrenics compared to controls.

Methods: In a rapid event-related fMRI design encoding of new faces as well as the recognition of newly learned, famous, and unknown faces was investigated in 13 schizophrenics and 21 healthy controls. Region of interest analysis was applied to each individual's right fusiform face area and tested for group differences.

Results: Controls displayed more BOLD activation during the memorization of faces that were later successfully recognized. In schizophrenics this effect was not present. During the recognition task schizophrenics had lower BOLD responses, less accuracy, as well as longer reaction times to famous and unknown faces.

Conclusions: Our results support the hypothesis that impaired face processing in schizophrenia is related to early stage deficits during the encoding and immediate recognition of faces.

Cognitive remediation in schizophrenia: An evidence-based treatment approach?

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The vast majority of schizophrenic patients demonstrates poor performance in different aspects of cognitive processing. Some of these cognitive deficits clearly have been identified as rate-limiting factors in social functioning. Over the past years, a series of meta-analyses has summarized the evidence for the benefits of cognitive remediation approaches. However, there are marked discrepancies between their findings.

The present contribution aims to provide a conclusive survey of the available evidence for the efficacy of cognitive remediation as derived from these meta-analyses and the findings of an own recent meta-analysis of all randomized controlled trials published in peer-reviewed journals.

Relevant meta-analyses and randomized controlled trials were identified by searching several electronic data bases and by hand-searching of reference lists. In order to compare the findings of the existing meta-analyses the reported effect sizes were transformed into a standardized effect size measure. For the own meta-analysis weighted mean effect size differences between comparison groups regarding various types of outcome were estimated. Their significance was tested by confidence intervals and heterogeneity tests were applied to examine the consistency of the effects.

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