

P-10-010**Interactions between visual attention and spatial working memory encoding in schizophrenia: an fMRI study**

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Objective: Behavioral findings suggest that working memory encoding is abnormal in schizophrenia, which might be due to deficits in selective attention. Furthermore, common processing limitations for visual working memory encoding and attention have been localized in visual, parietal, and premotor regions in healthy participants. In this study we tested the hypothesis that working memory deficits in schizophrenia are due to impaired processing capabilities shared by working memory encoding and attention in these regions.

Methods: Nineteen schizophrenic patients and twenty-one healthy controls underwent functional magnetic resonance imaging (fMRI) while performing a task that combined visual search and delayed discrimination of spatial locations. Participants were presented with a search array, performed an easy or difficult visual search, and encoded the locations of either one or three target items into working memory. The fMRI analysis focussed on the encoding phase.

Results: Patients performed worse than controls when working memory load was high. In patients, we observed a reduced working memory load effect (higher activation for 3 vs. 1 location) at high compared with low attentional demand (i.e., an interaction between working memory load and attentional demand), specifically in premotor and posterior parietal regions. This effect was less evident in controls.

Conclusion: Competition for shared resources between visual working memory encoding and attention in posterior brain regions appears to be increased in patients with schizophrenia, suggesting less efficient recruitment of attentional mechanisms in the service of working memory encoding. These disturbances may be one of the factors contributing to working memory impairment in schizophrenia.

Policy of full disclosure: None.

P-10-011**Fronto-limbic novelty processing in acute psychosis: inefficient hippocampal encoding and potential implications for delusions**

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Objective: Recent concepts have highlighted the role of the hippocampus and adjacent medial temporal lobe (MTL) in positive symptoms like delusions in schizophrenia. In healthy individuals, the MTL is critically involved in the detection and encoding of novel information.

Methods: Here, we aimed to investigate whether dysfunctional novelty processing by the MTL might constitute a potential neural mechanism contributing to the pathophysiology of delusions, using functional magnetic resonance imaging (fMRI) in 16 unmedicated patients with paranoid schizophrenia and 20 age-matched healthy controls. All patients experienced positive symptoms at time of participation. Participants performed a visual target detection task with complex scene stimuli in which novel and familiar rare stimuli were presented randomly intermixed with a standard and a target picture.

Results: Presentation of novel relative to familiar images was associated with hippocampal activation in both patients and healthy controls, but only healthy controls showed a positive relationship between novelty-related hippocampal activation and recognition

memory performance after 24 h. Patients, but not controls, showed a robust neural response in the orbitofrontal cortex (OFC) during presentation of novel stimuli. Functional connectivity analysis in the patients further revealed a novelty-related increase of functional connectivity of both the hippocampus and the OFC with the rostral anterior cingulate cortex (rACC) and the ventral striatum. Notably, delusions correlated positively with the difference of the functional connectivity of the hippocampus versus the OFC with the rACC.

Conclusion: Taken together, our results suggest that alterations of fronto-limbic novelty processing may contribute to the pathophysiology of delusions in patients with acute psychosis.

Policy of full disclosure: None.

P-11 Early stages of schizophrenia**P-11-001****Why are help-seeking subjects at ultra-high risk for psychosis help-seeking?**

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Objective: Besides attenuated psychotic symptoms, individuals at high clinical risk of developing psychosis display a wide range of psychopathological features. Some of these may be subjectively perceived as more troubling than others and may therefore be more likely to trigger help-seeking behavior. We aimed at investigating the nature and prevalence of symptoms subjectively considered most distressing by high-risk individuals at the time of their presentation to early recognition services and to determine their impact on baseline and longitudinal functional and clinical outcomes.

Methods: The clinical records of 221 clients meeting ultra-high risk (UHR) criteria and receiving care at a specialized early intervention service (“Outreach and Support in South London”) between 2001 and 2011 were reviewed. Main outcome measures were reason to seek help as subjectively reported by the clients, comorbid DSM-IV SCID diagnoses, transition to psychosis, psychosocial functioning at baseline and after a median follow-up period of 4.5 years.

Results: Affective symptoms, i.e., depression and/or anxiety were the most commonly reported subjective reasons to seek help (47.1 %). Sub-threshold psychotic symptoms were reported by 39.8 %. There was no significant association between subjective complaints at presentation and transition to psychosis. However, the group reporting affective symptoms as their main subjective reason to seek help at baseline had a significantly poorer longitudinal outcome in psychosocial functioning relative to the group reporting sub-threshold psychotic symptoms.

Conclusion: Assessment of subjective complaints in UHR individuals at initial presentation may help to identify predictors of future functional outcome and tailor treatments accordingly.

Policy of full disclosure: None.

P-11-002**Patterns of risk status in repeated measures over time: to what degree do they inform about conversion risk?**

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Objective: The basic symptom criterion “cognitive disturbances” (COGDIS) and ultra-high risk (UHR) criteria, in particular attenuated psychotic symptoms (APS) but also the less frequent transient psychotic symptoms (BIPS), are commonly used for the prediction of psychosis. However, their predictive value has been assessed so far only by survival analyses using one-time baseline ratings and time-to-conversion. Thereby, potentially risk status-informative fluctuations in risk criteria ratings over time remained unaccounted for. Therefore we studied if and how the predictive value of COGDIS and APS and their combination might be influenced by their presence across different assessment times.

Methods: In a naturalistic 24-month study funded by a research grant of the German Research Foundation (DFG), 146 patients at risk for “cognitive-perceptive basic symptoms” were repeatedly examined (monthly assessments until month 6, thereafter 3-monthly) for COGDIS and APS with the Schizophrenia Proneness Instrument, Adult version, and the Structured Interview of Prodromal Syndromes. Joint latent class analysis was applied to identify different patterns of risk criteria over time and to detect the degree of their association with risk for conversion to psychosis.

Results: The final model included 4 classes: neither COGDIS nor APS, exclusively COGDIS, exclusively APS, and the combination of COGDIS and APS. Class-specific trajectories and survival functions were associated with an increased risk for the conversion to psychosis from a mild to an intense degree, demonstrating a superior performance of the combination of COGDIS and APS.

Conclusion: This result reinforces earlier results of a clearly superior psychosis-predictive value of the combination of APS and COGDIS at baseline and shows that the superior performance of this combination is maintained over time, i.e., independent of when it occurs. Thus, patients with an increased symptomatic risk for psychosis should be repeatedly monitored for APS and COGDIS to assess shifts in risk status.

Policy of full disclosure: None.

P-11-003

Mechanisms of transmission of health and risk in parents with schizophrenia or bipolar disorder and their offspring (The WARM Study)

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Objective: Approximately half of infants of parents with complex mental health problems such as psychosis and mood disorder develop mental disorders themselves and thus have a markedly increased risk compared to the normal population. The purpose of this study is to establish the feasibility of developing a cohort of pregnant women with severe mental disorder and to identify biological and psychosocial transmission mechanisms involved in the development of ‘risk’ and ‘resilience’ in the offspring. A High-Risk developmental trajectory in infants is likely to be caused by a complex interaction between multiple biological, psychological and social factors. The WARM study focuses specifically on examining the impact of physiological stress-sensitivity (cortisol), attachment, care-giving and the familial/social context on care-giving and infant development.

Methods: The project is a longitudinal cohort study, identifying and recruiting women during pregnancy presenting in four groups: (1) lifetime DSM-V diagnosis of schizophrenia (n = 50); (2) lifetime

diagnosis bipolar disorder (n = 50); lifetime diagnosis of moderate/severe depression (n = 50); non-clinical control (n = 50). The cohort will be recruited in Denmark and Scotland. After baseline assessment antenatally, mother’s and their infant’s will be followed up at 1–7 days, 4-, 16-weeks and 12-months postnatally. We will measure symptoms (PANSS, Bech, MADRS), stress-sensitivity (maternal and infant salivary cortisol), maternal intelligence (Reynolds Intellectual Screening Test), maternal attachment (Adult Attachment Interview, Adult Attachment Projective, Psychosis Attachment Measure), neonatal behaviour (NNS), mother-infant interaction (Caregiving Inventory, Still Face procedure) and social factors (significant others, childhood trauma, demographics) .

Results: Recruitment in both Scotland and Denmark commenced in November 2014.

Conclusion: The WARM study will establish feasibility of developing a cohort of pregnant women with severe mental disorder. We will also develop the research evidence base for improved treatment frameworks for this clinical group.

Policy of full disclosure: None.

P-11-004

Mediation models from childhood adversity to depressiveness in patients at-risk for psychosis and in help-seeking controls

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Objective: Childhood adversity (CA) is associated with poor mental health outcomes including psychotic symptoms. However, the mechanisms linking CA to the development of psychosis are still poorly understood—in both their nature and the specificity of links for psychosis development. Possible links (mediators) are an excessive use of external attributions, dysfunctional coping patterns, and depressive symptoms that were associated with CA in healthy subjects but have not been studied in patients at-risk for psychosis.

Methods: Pathways models from CA to depressiveness were generated based on literature and examined separately in two samples by structural equation modeling: 137 patients at-risk for psychosis and 228 help-seeking controls. Mediators between CA (Trauma and Distress Scale) and depressiveness (BDI II) were attribution style, self-efficacy (Competence and Control Beliefs Questionnaire) and coping strategies (Stress-Coping-Questionnaire).

Results: As expected, both final models showed 3 pathways running from CA to external attributions and low-self-efficacy, from these beliefs to maladaptive coping strategies and from there to depressiveness (CFI > 0.9, RMSEA < 0.1). In addition to these 3 direct pathways, the at-risk group displayed an alternative effect of CA on maladaptive coping.

Conclusion: Our findings suggest that CA generally increases the risk for mental health problems by the development of dysfunctional attributions and low self-efficacy that lead to maladaptive coping strategies and heightened levels of depressiveness with an additional effect of CA on maladaptive coping in at-risk patients. Thus, integrated interventions targeting these factors may enhance resilience and, thereby, prevent both the persistence of distressing symptoms and their progression to mental disorders, including psychosis.

Policy of full disclosure: None.