S-05-002
The 2-year course of clinical high-risk criteria in children and adolescents

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Objective: Community studies on clinical high risk (CHR) symptoms and criteria suggest a higher prevalence and lower clinical relevance of CHR symptoms in children and adolescents compared to adults, indicating a higher likelihood for their spontaneous remission over time. Thus, in the BEARS-Kid study, we studied the course of CHR criteria across 2 years in a help-seeking child and adolescent CHR sample.
Methods: Naturalistic 2-year follow-up of 166 CHR patients (age 8–17 years at baseline) who did not develop psychosis.
Results: Of the 111 initial CHR patients, only 59 (55%) still fulfilled symptomatic CHR criteria at 1-year follow-up; and of the 68 followed up over 2 years, still 53% fulfilled them. Furthermore, 76% of patients still fulfilling CHR criteria at 1-year follow-up continued to fulfill them at 2-year follow-up. Baseline age predicted persistence of CHR criteria at 1-year but not at 2-year follow-up.
Conclusion: Dies on CHR adult samples, mainly only by ultra-high-risk criteria, predominately reported persistence rates of less than 50% of the non-converters. Thus, unexpectantly, persistence rates in our young sample were even higher, indicating that CHR symptoms, when severe enough to fulfill CHR criteria, are not predominately fleeting expressions of developmental processes likely requiring clinical attention. Yet, more research into what constitutes clinical significance of CHR symptoms across late childhood and adolescence is required.
Policy of full disclosure: None.

S-05-003
Prevalence of clinical high-risk criteria in children and adolescents not suspected to develop psychosis

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In the community, clinical high risk of psychosis (CHR) criteria occur more frequently in children and adolescents compared to adults. Yet, little is known about their occurrence in clinical children and adolescents' samples. Thus, we studied how frequent CHR criteria and symptoms occur in 8- to 17-year-old inpatients with disorders that were associated with greater odds to develop psychosis in adulthood, i.e., attention-deficit hyperactivity disorder, social and specific phobia, and obsessive-compulsive disorder, eating disorders and Asperger's disorder. In the multicenter naturalistic Bi-national Evaluation of At-Risk Symptoms in children and adolescents (BEARS-Kid) study, 8- to 17-year-olds of the community (N = 235) and 8- to 17-year-old inpatients with any one of the above main diagnoses who were not suspected to be at increased risk of psychosis (N = 306) were examined for CHR symptoms and criteria with the Structured Interview for Psychosis-Risk Syndromes and the Schizophrenia Proneness Instrument, Child & Youth version. At 6.4%, the prevalence rate of CHR criteria in the community sample was almost as high as the 8.2%-rate in the inpatient sample. However, both rates were higher than the earlier reported 2.4%-rate of CHR criteria in young adults. This indicates that, irrespective of their mental health status, children and adolescents present more frequently with CHR criteria compared to adults. Thus, more research into these symptoms and their cause and meaning in children and adolescents is needed to understand their significance in this age group and to detect factors that convey their clinical relevance in adulthood.
Policy of full disclosure: No conflict of interest.

S-05-004
Role and impact of comorbidities in children and adolescents with a clinical high risk of psychosis

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Objective: High prevalence rates of psychiatric comorbidities were reported in clinical high risk (CHR) for psychosis samples, particularly in younger patients and those with ultra-high risk (UHR) criteria. Thus, we examined the relationship between comorbid disorders and age as well as CHR criteria.
Methods: Severity of illness, functioning and a broad range of psychopathological domains were assessed in 176 patients (8–17 years of age) with an at-risk for psychosis. Clinical high-risk (CHR) criteria for psychosis were determined using the Schizophrenia Proneness Instrument, Child & Youth version (SPICY) as well as the Structured Interview of Psychosis-Risk Syndromes (SIPS). Comorbid disorders were identified using the MINI International neuropsychiatric interview for children and adolescents (MINI-Kid).
Results: At least one comorbid disorder was reported by 75% of study participants. Patients most commonly reported comorbid anxiety and affective disorders. Across all comorbid disorders we found a significant positive correlation between age of the patients and the number of comorbid disorders. Patients meeting the APS criteria showed an increased prevalence of comorbid disorders compared to patients without APS.
Conclusion: Children and adolescents with CHR for psychosis often show one or more comorbid disorders. In line with current reports from community studies, we found that the number of comorbid disorders increased with age and across the assumed early stages of psychosis, i.e., from basic symptom to symptomatic UHR criteria.
Policy of full disclosure: None.

S-06 Pathophysiology and treatment of cognitive dysfunction in schizophrenia—new perspectives

S-06-001
Neuroprotective and pro-cognitive effects of erythropoietin

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Objective: Executive functions, learning, attention, and speed of processing are imperative facets of cognitive performance, affected in many neuropsychiatric disorders. In clinical studies on patient groups as different as schizophrenia, chronic progressive multiple sclerosis, treatment-resistant major depression and bipolar disease, we consistently found that recombinant human erythropoietin (EPO) lastingly improves higher cognition. In schizophrenia, we even measured a reduction of gray matter loss by EPO, later replicated in individuals with affective disorders. Interestingly, normal genetic variation in EPO and EPO receptor (EPOR) genes co-determines the level of cognitive performance.
Methods: Comprehensive in vivo and in vitro analysis of different mouse models as well as of human patients upon EPO treatment.
Results: Employing mice for obtaining insight into mechanisms of action of EPO, we showed that EPO treatment of young mice as well as EPOR overexpression in pyramidal neurons leads to a remarkable, enduring improvement of higher cognition, together with enhanced hippocampal long-term potentiation, an electrophysiological correlate of learning and memory. At the cellular level, we observed that 3-week EPO treatment leads to an increase in the number of pyramidal neurons and oligodendrocytes in the hippocampus by $\sim$ 20%.