remission rates among study completers in both treatment groups, suggest better outcomes associated with long-acting treatments, resulting in sustained symptomatic and functional remission.

**PM533**
The Five-Factor Model Personality Traits in Schizophrenia: Meta-Analysis
Takamitsu Shimada, Kazutaka Ohi, Yasuhire Kawasaki, Hiroaki Kihara, Kazuaki Oshima, Kazuyuki Sawai, Takashi Uehara, Toshiki Yasuyama, Kohei Kimura
Kanazawa Medical University, Japan

**Abstract**
Personality is an important factor in the pathogenesis of schizophrenia because it affects patients’ symptoms, cognition and social functioning. Several studies have reported specific personality traits in patients with schizophrenia compared with healthy subjects. However, the results were inconsistent among studies, as the sample size in each study was not sufficient. The NEO Five-Factor Inventory (NEO-FFI) measures five personality traits: Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A) and Conscientiousness (C). Here, we performed a meta-analysis of these personality traits assessed by the NEO-FFI in 427 patients with schizophrenia and 455 healthy subjects from the published literature and investigated possible associations between schizophrenia and these traits. There was no publication bias for any traits (P>0.10). Because we found evidence of significant heterogeneity in all traits among the studies (P<0.10), we applied a random-effect model to perform the meta-analysis. Patients with schizophrenia showed a higher score for N and lower scores for E, O, A and C compared with healthy subjects (P<0.05). The effect sizes of these personality traits ranged from moderate to large. These differences with healthy subjects were not affected by possible confounding factors, such as age and gender (P>0.05). These findings suggest that patients with schizophrenia have a unique personality profile compared with healthy subjects.

**PM534**
Longitudinal change in neurocognition and its relation to symptomatic and functional changes over 2 years in individuals at clinical high-risk for psychosis
Ye Seul Shin1, So-Yeon Kim1, Tae Young Lee1, Ji-Won Hur1, Na Young Shin1, Sung Nyun Kim1,2, Min-Sup Shin1, and Jun Soo Kwon1,3

1Department of Brain and Cognitive Sciences, College of Natural Sciences, Seoul National University, Seoul, Republic of Korea
2Department of Psychology, Duksung Women’s University, Seoul, Republic of Korea
3Institute of Human Behavioral Medicine, SNU-MRC, Seoul, Republic of Korea

**Abstract**
Negative symptoms and functional disability represent the core of schizophrenia and both are associated with cognitive impairments. We explored the course of cognitive change and its relation to symptomatic and functional changes in individuals at clinical high-risk (CHR) for psychosis to identify cognitive indicators of long-term course. Such attempts may offer insight into the pathological changes associated with the development of illness in the prodromal state.

**Methods:** Forty-seven CHR individuals completed neurocognitive, clinical, and functional assessments at baseline and 2-year follow-up; twenty-eight healthy controls were assessed for neurocognitive and functional measures at baseline and 2-year follow-up. The delta values of CHR individuals in neurocognitive, clinical, and functional domains were determined from differences between baseline and follow-up scores to estimate the degree of change.

**Results:** Although overall longitudinal cognitive performance of CHR individuals improved, the magnitude of improvement was not statistically different from that of normal controls at the group level. However, the individual data yielded two groups of CHR subjects showing opposite trajectories of cognitive change in semantic fluency (i.e., improvement or decline), which was significantly associated with changes in negative symptoms and functional measures. Moreover, the relationship between negative symptoms and functioning were more strengthened over time than baseline.

**Conclusions:** Our findings show that semantic fluency seems to be a neurocognitive indicator reflecting clinical courses in CHR individuals. The longitudinal relationship of negative symptoms and functioning with semantic fluency may represent ongoing pathological processes in neural systems involving aberrant fronto-temporal interaction in the early phase of schizophrenia.

**Keywords:** Clinical high-risk, schizophrenia, neurocognition, negative symptom, functional outcome, longitudinal.

**PM535**
The effect of bilateral saccadic eye movements on the performance of recognition memory task in patients with schizophrenia
Na-Hyun Lee1, Seung Jun Kim1, Ji-Woong Kim1, Woo-Young Im1, Sang-Min Lee1, Hyukchan Kuwon1, Kiwoong Kim1,–3, Min-Young Kim1, Sanghyun Lim1,–3

1Department of Psychiatry, Konyang University College of Medicine, Daejeon, Republic of Korea
2Center for Brain and Cognition Measurement, Division of Convergence Technology, Korea Research Institute of Standards and Science, Daejeon, Republic of Korea
3Department of Medical Physics, University of Science and Technology, Daejeon, Republic of Korea

**Abstract**
In a previous study, the retrieval of episodic memories in healthy individuals. The present study was conducted in order to investigate whether the memory-enhancing effects of bilateral saccadic eye movements could occur in schizophrenic patients.

**Methods:** Twenty-one right-handed patients with schizophrenia participated in this study. Participants learned facial stimuli, which consisted of neutral and angry faces. Subsequently, they performed a recognition memory task using the facial stimuli after bilateral saccadic eye movements and eye fixation. Recognition accuracy, response bias and mean response time to hits were compared. Two-way repeated measure analysis of variance was performed for statistical analysis.

**Results:** Mean response time after bilateral saccadic eye movements was significantly shorter than that after eye fixation.
(F = 5.812, P < 0.05). In addition, response bias was significantly reduced after bilateral saccadic eye movements relative to that after eye fixation (F = 10.366, P < 0.01). Statistically significant interaction effects were not observed between eye movement conditions and face emotion types.

**Conclusion:** The present study showed that bilateral saccadic eye movements enhanced the performance of recognition memory task in patients with schizophrenia. This finding suggests that bilateral saccadic eye movements may be used for cognitive rehabilitation in patients with schizophrenia.

**PM536**

**BACOPA MONNIERI (BRAHMI) CAN RECOVER AND PREVENT COGNITIVE DEFICIT IN SUB-CHRONIC PHENCYCLIDINE RAT MODEL OF SCHIZOPHRENIA BY ELEVATING VESICULAR GLUTAMATE TRANSPORTER TYPE 3 IN THE BRAIN**

Pritsana Piyabhan Faculty of Medicine, Thammasat University
Rangsit Center, 99 Paholyothin Rd., Klongluang, Patumtani 12120
Thailand
Tel: (66) 870631999 taipritsana@yahoo.com

**Abstract**

**Background:** Glutamatergic hypofunction is implicated in schizophrenia. Reduced presynaptic glutamatergic markers, remarkably vesicular glutamate transporter type 1 (VGLUT1) and 2 (VGLUT2) indicates glutamatergic deficit leading to cognitive impairment in schizophrenia. However, few studies in VGLUT3 have been reported. Brahmi (Bacopa monnieri), a traditional herbal medicine, might be a new treatment and prevention for cognitive rehabilitation in patients with schizophrenia.

**Material and Method:** Cognitive enhancement effect study; rats were assigned to three groups; **Group-1:** Control, **Group-2:** Brahmi + PCP, **Group-3:** PCP + Brahmi. Neuroprotective effect study; rats were assigned to three groups; **Group-1:** Control, **Group-2:** PCP-administration, **Group-3:** PCP + Brahmi. Discrimination ratio (DR) representing cognitive ability was obtained from novel object recognition task. VGLUT3 immunodensity was measured in prefrontal cortex, striatum and cornu ammonis fields 1–3 (CA1-3) of hippocampus using immunohistochemistry.

**Results:** DR was significantly reduced in PCP group compared with control. This occurred alongside VGLUT3 reduction in prefrontal cortex, striatum and CA1-3. PCP + Brahmi showed a higher DR score compared with PCP alone and this occurred alongside a significantly increased VGLUT3 immunodensity in prefrontal cortex and striatum. Brahmi + PCP group also showed a higher DR score compared with PCP alone and this occurred alongside a significantly increased VGLUT3 immunodensity in prefrontal cortex, striatum and CA1-3.

**Conclusion:** Reduced cerebral VGLUT3 produced cognitive deficit in rats receiving PCP. Interestingly, receiving Brahmi after PCP administration can restore this cognitive deficit by increasing VGLUT3 in prefrontal cortex and striatum. Receiving Brahmi before PCP administration can also prevent cognitive impairment by elevating VGLUT3 in prefrontal cortex, striatum and CA1-3. Therefore, Brahmi could be a new frontier of restoration and prevention of cognitive deficit in schizophrenia.