study has evaluated blood BDNF levels and their association with cognitive impairment in patients with at-risk mental state (ARMS).

**Methods:** We included 13 patients with ARMS and 30 healthy controls (HC) matched by sex, age, and educational level. Plasma BDNF levels were measured in patients at baseline and six months, and in HC at baseline. Neurocognitive functions (executive functions, speed of processing, verbal learning and memory, working memory) were examined in the patients at 6 months, and in HC at baseline. Regression analyses were conducted to examine the relationship between BDNF levels and cognitive performance.

**Results:** BDNF levels were lower in ARMS group than in HC group both at baseline and at 6 months (p = 0.001, p = 0.008, respectively). ARMS group showed lower scores in global cognition, speed of processing, and verbal learning and memory compared with HC group (p = 0.002, p = 0.001, p = 0.005, respectively). There were no associations between plasma BDNF levels and all of the cognitive domains in both groups.

**Conclusions:** Peripheral BDNF levels were not related to cognitive deficits in ARMS and HC groups while the lower BDNF level in the former persisted up to 6 months. Further research is needed in a large sample.

**Keywords:** Brain-Derived Neurotrophic Factor, Cognitive Function, Prodromal Psychosis, At-Risk Mental States

---

**S203. Impact of Schizophrenia on Temporal Context Versus Item Memory**

J. Daniel Ragland1, Liang-Tien Hsieh1, Cameron Carter1, Mitzi Hurtado1, Jovian Lam1, Tyler Lesh1, Tara A. Niendam1, Marjorie Solomon1, and Charan Ranganath1

1University of California, Davis

**Background:** Bridging temporal gaps are a core feature of episodic memory, allowing for “mental time travel” and a sense of recollection. Given evidence of disproportionate recollection versus familiarity deficits, we hypothesized that patients would have differential memory impairments for temporal versus item information.

**Methods:** 41 first episode schizophrenia patients and 43 healthy controls completed two tasks; 1) Temporal Order Working Memory (TO_WM), which requires individuals to maintain information about a set of 4 fractal images to respond to either item probes (old/new recognition) or temporal order probes (which was seen first?) after a 3 second delay. 2) Temporal Sequence Learning task (TS_Learn), which trains participants on a set of fixed, random, or novel sequences of visual objects. During retrieval, a continuous list - including embedded sequences, is presented, and participants quickly respond to a semantic probe on each item. Sequence learning is demonstrated by faster reaction times (RT) for fixed versus random sequences. Repeated-measures analyses of variance (ANOVA) were performed to test for group by condition interactions, which would support study hypothesis.

**Results:** As predicted, TO_WM showed a group by condition interaction [F(1,70) = 4.87, p < 0.05], with patients showing disproportionate memory impairments for temporal order versus item information. A similar interaction was also observed for TS_Learn, [F(1,66) = 4.87, p < 0.05], with attenuation of the RT facilitation effect for fixed versus random sequences in the patient sample.

**Conclusions:** Patients appear to have greater difficulty remembering temporal versus item information, suggesting that their disproportionate recollection deficits may relate to difficulty utilizing temporal context during memory formation.

**Supported By:** NIH R01MH105411

**Keywords:** Episodic Memory, Context, Early Psychosis