

**Conflict of interest:** No

**Keywords:** transcranial direct current stimulation; Cerebellum; motor; risk for psychotic onset

## EPP1148

### Effects of transcranial direct current stimulation on facial and hand motor performance in individuals at risk for psychotic onset: a pilot study

S.-M. Wang\*, Y.-S. Hui, C.-F. Leung, Y.-Y. Ng, W.-S. Pang and C.-Y. Yu

The Hong Kong Polytechnic University, Department of Rehabilitation Sciences, Kowloon, Hong Kong PRC

\*Corresponding author.

**Introduction:** Individuals at risk for psychotic onset present facial and hand motor abnormalities, which have been reported to be risk factors and predictors of psychotic onset. Aberrant cerebellum may play a pivotal role in explaining the existence of motor abnormalities in at-risk individuals. Transcranial direct current stimulation (tDCS) on cerebellum is promising for improving motor function and further contributing to early intervention to defer or even prevent psychotic onset in the at-risk population.

**Objectives:** This study was to examine if tDCS on cerebellum improved facial and hand motor function in individuals at risk for psychotic onset.

**Methods:** Six right-handed at-risk individuals were randomly assigned to receive real 2mA tDCS (n=3) or sham tDCS (n=3) for 8 sessions (twice per week, 20 minutes per session). An anode was placed on cerebellum (1–2 cm below the inion); a cathode was placed on the right deltoid in at-risk individuals. Motion analysis was used to measure normalized movement time (nMT), reflecting movement speed, and the normalized number of movement units (nNMU), reflecting movement smoothness, for the right face and the right hand of participants.

**Results:** Both groups were matched at pretest. At posttest, tDCS showed medium-to-large effect size *d* on nMT (face: 0.73; hand: 0.63) and nNMU (face: 0.74; hand: 0.45).

**Conclusions:** The pilot data show a high potential of tDCS on cerebellum to improve facial and hand motor function in at-risk individuals, which is beneficial to early prevention of psychotic onset. Future research with a larger sample size is warranted.