

A Pilot Study of Neuroplasticity Based Cognitive Remediation in Early Onset Psychosis

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Introduction – Neuroplasticity based auditory and visual training programs appear to improve neurocognitive function in adults with schizophrenia, but use in younger individuals has not been determined. We hypothesized that adolescents might play more often and respond better than adults to training using a game-like laptop in their home environment.

Methods -- Youth 10-19 years with Early Onset Psychosis (EOP) were provided a laptop and randomly assigned to play games to enhance basic auditory, visual and social processing neuroplasticity games (NPG) or assigned to control games with cognitive components, such as Sudoku or hangman or (CG). All received neurocognitive assessments at baseline, intervention completion and 4 months post treatment.

Results — 12 youth (15.5 ±3.2 yrs) were assigned to NPG and 10 participants (16.2 ±2.1 years) were assigned to CG. More NPG than CG participants completed the prescribed hours of game play (block 1 - 92% vs. 70% over the first 40 hours), with both groups engaged less over time. Although most neurocognitive functions did not change, the NPG group did show improvements in WRAML Visual Learning, WISC Digit Span Forward, Spatial Span Backwards and CPT omission errors. Surprisingly, satisfaction was lower for NPG than CG.

Conclusions — Groups were well matched for baseline illness characteristics. On the global measures of cognition, both EOP groups showed improvement over time but those improvements were generally greater in the CG than in the NPG group, with potentially significant differences favoring the CG evident in the neurocognitive composite score (p=0.072) and BRIEF metacognition (p=.117). Youth did not play as frequently or as long as requested despite providing a laptop for their home use and stipends for playing.

References

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Disclosures

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