Proof-of-concept study of an at-home, engaging, digital intervention for pediatric ADHD.

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Abstract

OBJECTIVE:
Pharmacological and behavioral therapies have limited impact on the distinct neurocognitive impairments associated with ADHD, and existing cognitive training programs have shown limited efficacy. This proof-of-concept study assessed treatment acceptability and explored outcomes for a novel digital treatment targeting cognitive processes implicated in ADHD.

METHOD:
Participants included 40 children with ADHD and 40 children without ADHD. Following psychiatric screening, ADHD ratings, and baseline neuropsychological measures, participants completed 28-days of at-home treatment. Neuropsychological assessment was repeated at end-of-study along with treatment satisfaction measures.

RESULTS:
Eighty-four percent of treatment sessions were completed and ratings showed strong intervention appeal. Significant improvements were observed on a computerized attention task for the ADHD group and a highly impaired ADHD High Severity subgroup. There was no change for the non-ADHD group. Spatial working memory also improved for the ADHD group and the ADHD High Severity subgroup.

CONCLUSION:
Findings provide preliminary support that this treatment may improve attention, working memory, and inhibition in children with ADHD. Future research requires larger-scale randomized controlled trials that also evaluate treatment impact on functional impairments.

TRIAL REGISTRATION:
ClinicalTrials.gov NCT01943539.