

Virtual reality training to enhance behavior and cognitive function among children with attention-deficit/hyperactivity disorder: brief report

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Abstract

PURPOSE:

To examine the feasibility and efficacy of a combined motor-cognitive training using virtual reality to enhance behavior, cognitive function and dual-tasking in children with Attention-Deficit/Hyperactivity Disorder (ADHD).

METHODS:

Fourteen non-medicated school-aged children with ADHD, received 18 training sessions during 6 weeks. Training included walking on a treadmill while negotiating virtual obstacles. Behavioral symptoms, cognition and gait were tested before and after the training and at 6-weeks follow-up.

RESULTS:

Based on parental report, there was a significant improvement in children's social problems and psychosomatic behavior after the training. Executive function and memory were improved post-training while attention was unchanged. Gait regularity significantly increased during dual-task walking. Long-term training effects were maintained in memory and executive function.

CONCLUSION:

Treadmill-training augmented with virtual-reality is feasible and may be an effective treatment to enhance behavior, cognitive function and dual-tasking in children with ADHD.