Hazard Perception Skills of Young Drivers with Attention-Deficit Hyperactivity Disorder Can Be Improved With Computer-Based Training: A Feasibility Trial

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Abstract

Background:
Young drivers with attention-deficit hyperactivity disorder (ADHD) are at higher risk of road traffic injuries than their peers. Increased risk correlates with poor hazard perception skill. Few studies have investigated hazard perception training using computer applications such as DriveSmart with this group of drivers.

Objectives:
To determine the magnitude of the between-group and within-subject change in hazard perception skills among young drivers with ADHD-exposed/delayed exposure to DriveSmart training and determine whether a training-facilitated change in hazard perception is maintained over time.

Methods:
Australian feasibility study. Twenty-five drivers with a diagnosis of ADHD were randomized to the intervention or control group. Participants in the intervention group received a computer training session using DriveSmart, while the control group watched a documentary video. The design included a delayed treatment for the control group. The participants’ hazard perception skill was measured on the University of Queensland Hazard Perception Test (HPT) post training and at 6-week follow-up.

Findings:
After adjusting for baseline scores, there was a significant between-group difference ($p = 0.023$, partial $\eta^2 = 0.212$) and a significant within-subject difference post intervention in the experimental group. There was no significant difference between post intervention and 6-week follow-up scores in the experimental group.

Conclusions:
The hazard perception skills of participants improved following training and were largely sustained. We found a large effect size consistent with one prior study. A full-scale trial is feasible.