Simulated Driving Skills Evaluation of Teenagers with Attention Deficit Hyperactivity Disorder Before Driving Lessons

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Abstract

OBJECTIVE.
We evaluated the driving skills of teenagers with attention deficit hyperactivity disorder (ADHD) during simulated driving before starting driving lessons and observed whether methylphenidate (MPH) affected their performance.

METHOD.
Sixty teenagers ages 15-18 yr were included; 29 teenagers with ADHD were tested with and without MPH, and 31 teenagers (control group) were tested once. All participants were tested on the STISIM Drive™ simulator.

RESULTS.
The number of center-line crossings was higher in the group without MPH treatment than in the control group and the MPH-treated group. The group without MPH treatment had more road-edge excursions compared with the control group and drove faster than the MPH-treated group.

CONCLUSION.
Adolescents with ADHD without MPH treatment demonstrated impaired performance more often while driving the simulator, resembling characteristics found during on-road driving among teenagers with ADHD. Trainer awareness is a primary intervention before taking driving lessons to help teenagers achieve safe driving performance.