High Risk Driving in Treated and Untreated Youth with Attention Deficit Hyperactivity Disorder: Public Health Implications

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Abstract:

Background/Objective:
The most prevalent cause of youth (aged 16-25) fatalities is high-risk driving behaviours (HRDB) leading to motor vehicle crashes (MVCs). We examine: first, whether youth drivers diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) may manifest an increased HRDB compared with Non-ADHD drivers of a similar age and driving experience, and second, if, and to what degree, does compliance with prescribed ADHD medications affect rates of HDRB.

Method:
A systematic literature review was conducted for HRDB, MVCs, citations, and violations in youth age 16-25 years old diagnosed with ADHD using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Twelve out of fifty-nine papers met the search criteria.

Results:
The diagnosis of ADHD is associated with increased rates of HRDB. Inattention is a significant predictor of driving problems and reduced driving safety (P<.05). The relationship between hyperactivity/impulsivity and self-reported violations showed a trend towards poor driving behaviours (p=.08). Youth with ADHD who are treated with stimulants have statistically significant improvements in simulated driving performance compared to those treated with placebo (P=.005).

Conclusion:
Treatment of attention deficit hyperactivity disorder in affected youth reduces the risk for HRDB. Continued examination of safety, legal and ethical implications of obtaining a driver license and operating a vehicle by youth with ADHD is necessary in order to reduce HRDB and MVCs in this high-risk population.