

Driving difficulties of adults with attention deficit hyperactivity disorder

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CONCLUSIONS

- **Individuals with ADHD have different and more adverse driving outcomes compared to typical developing individuals.**
- **Various cognitive functions play a role in driving. Neuropsychological examinations do, however, neither appear helpful in detecting high risk drivers with ADHD nor in predicting driving outcomes in individuals with ADHD.**
- **Pharmacological treatment of ADHD (in particular stimulant drug treatment) counteracts driving difficulties of individuals with ADHD.**
- **Additional research is needed that address the numerous methodological weaknesses of many of the previous studies on driving in ADHD (e.g. small sample sizes, selection bias, unclear randomization, absence of appropriate control conditions).**

OBJECTIVES

Adult attention deficit hyperactivity disorder (ADHD)

Inattention, impulsivity and executive dysfunctioning are assumed to represent the core cognitive symptoms of ADHD. Overall, it has been shown that adults with ADHD suffer from dysfunction in cognitive, emotional and social domains, resulting in considerable impairments in many areas of daily living.



Motor vehicle driving and ADHD

Driving a vehicle is an important activity of everyday life requiring an efficient interplay between multiple cognitive, perceptual, and motor skills.

With regard to cognition, the integrity of attentional processing, impulse control, executive functions, and visuospatial skills appear to be particularly relevant for safe driving.

The obvious relation between ADHD and characteristics of risky driving calls for a systematic investigation of driving-related difficulties of adults with ADHD.

METHODS

A review of the literature on driving behaviour of individuals with ADHD was performed, with the aim to provide answers to the following questions:

- Do individuals with ADHD have an increased driving risk?
- What cognitive (dys)functions of individuals with ADHD are related to driving difficulty?
- Does pharmacological treatment improve driving behaviour of individuals with ADHD?

RESULTS

Ratings and official reports

Adverse driving behaviour of individuals with ADHD

- More accidents
- More reckless and risky driving
- More traffic citations
- More parent-reported problems
- More licence suspension
- More driving related aggression



Driving simulator studies

Adverse driving behaviour of individuals with ADHD

- More speeding
- More collision and crashes
- More driving errors
- Increased lane swerving
- Poorer steering control
- More scrapes



On-road tests

Adverse driving behaviour of individuals with ADHD

- More speeding
- More sudden deceleration
- More driving errors
- More collision and crashes
- More harsh braking
- More weaving of the car



➔ Impairments of attention (e.g. distractibility), executive functions (e.g. in cognitive flexibility and impulse control), visual acuity and visual field affect driving behaviour of adults with ADHD adversely

➔ Pharmacological treatment appears to improve driving behaviour of patients with ADHD, but does not necessarily normalize behaviour

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