



REVIEW

Live fast, die young? A review on the developmental trajectories of ADHD across the lifespan

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Abstract

Attention-deficit/hyperactivity disorder (ADHD) is highly heritable and the most common neurodevelopmental disorder in childhood. In recent decades, it has been appreciated that in a substantial number of cases the disorder does not remit in puberty, but persists into adulthood. Both in childhood and adulthood, ADHD is characterised by substantial comorbidity including substance use, depression, anxiety, and accidents. However, course and symptoms of the disorder and the comorbidities may fluctuate and change over time, and even age of onset in childhood has recently been questioned. Available evidence to date is poor and largely inconsistent with regard to the predictors of persistence versus remittance. Likewise, the development of comorbid disorders cannot be foreseen early on, hampering preventive measures. These facts call for a lifespan perspective on ADHD from childhood to old age. In this selective review, we summarise current knowledge of the long-term course of ADHD, with an emphasis on clinical symptom and cognitive trajectories, treatment effects over the lifespan, and the development of comorbidities. Also, we summarise current knowledge and important unresolved issues on biological factors underlying different ADHD trajectories. We conclude that a severe lack of knowledge on lifespan aspects in ADHD still exists for nearly every aspect reviewed. We encourage large-scale research efforts to overcome those knowledge gaps through appropriately granular longitudinal studies.

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1. Introduction

Attention-deficit/hyperactivity disorder (ADHD) is a neurodevelopmental condition that typically starts during childhood or early adolescence and is thought to follow a trait-like course. The clinical disorder is defined by age-inappropriate levels of inattention and/or hyperactivity-impulsivity interfering with normal development, or functioning, of a person. Although ADHD carries the stigma of being a consequence of modern lifestyle, the first mentioning of the syndrome dates back to the late 18th century (Faraone et al., 2015). Historically, ADHD was described mainly in school-age boys (Still, 2006). Later, it was

recognised that many girls have similar problems - yet often remain unrecognised and, consequently, undiagnosed. During the past decades, it has been demonstrated that ADHD is common in all countries studied (Fayyad et al., 2017; Polanczyk et al., 2014), and that it seriously affects the productivity, life expectancy, and quality of life throughout the lifespan of patients (Erskine et al., 2013). Importantly, it took until the late 20th century before it could convincingly be shown that ADHD also exists in adults, and that continuity exists from childhood to adulthood (Wood et al., 1976) calling for a lifespan perspective on the

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