A meta-analysis and systematic review of the risks associated with childhood attention-deficit hyperactivity disorder on long-term outcome of arrests, convictions, and incarcerations

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Abstract

The primary aim of this study was to systematically review and analyse the prevalence of arrests, convictions, and incarcerations associated with childhood Attention Deficit/Hyperactivity Disorder (ADHD) in long-term outcome studies. In addition, all included studies were qualitatively and systematically reviewed for predictors of long-term crimes. The databases Pubmed, PsycINFO and Embase were searched for all controlled studies that included children and adolescents (age 4–15) with ADHD who had been followed up longitudinally and reported the frequency of arrests, convictions or incarcerations based on data from official sources. Using random-effects models, the relative risk (RR) with 95% confidence intervals (95% CI) was estimated. A total of 15,442 individuals with childhood ADHD from nine unique samples were included. Childhood ADHD was significantly associated with adolescent and adulthood arrests (RR: 2.2, 95% CI: 1.3–3.5), convictions (RR 3.3, 95% CI: 2.1–5.2) and incarceration (RR: 2.9, 95% CI: 1.9–4.3). Individuals with ADHD had a younger age at onset of antisocial involvement and an increased risk of criminal recidivism. The most frequently committed criminal offenses were theft, assault, drug- and weapon related crimes. Various factors including early antisocial behaviour problems, childhood maltreatment, sex, and IQ were identified as potentially clinical relevant predictors for antisocial outcomes. The findings support a substantial long-term risk associated with ADHD. Early intensive and specifically targeted multimodal intervention including psychosocial, and pharmacological treatment is warranted to alter these negative long-term developmental trajectories.