Risk of unintentional injuries in children and adolescents with ADHD and the impact of ADHD medications: protocol for a systematic review and meta-analysis


doi: 10.1136/bmjopen-2017-018027

Abstract

Introduction
Attention-deficit hyperactivity disorder (ADHD) has been related to increased rates of unintentional injuries. However, the magnitude of the effect and to which extent variables such as sex, age or comorbidity can influence this relationship is unknown. Additionally, and importantly, it is unclear if, and to which degree, ADHD medications can decrease the number of unintentional injuries. Due to the amount of economic and social resources invested in the treatment of injuries, filling these gaps in the literature is highly relevant from a public health standpoint. Here, we present a protocol for a systematic review and meta-analysis to estimate the relationship between ADHD and unintentional injuries and assess the impact of pharmacological treatment for ADHD

Methods and analysis
We will combine results from 114 bibliographic databases for studies relating ADHD and risk of injuries. Bibliographic searches and data extraction will be carried out independently by two researchers. The studies’ risk of bias will be assessed using the Newcastle-Ottawa Scale. Articles reporting ORs or HRs of suffering an injury in ADHD compared with controls (or enough data to calculate them) will be combined using Robust Variance Estimation, a method that permits to include multiple non-independent outcomes in the analysis. All analyses will be carried out in Stata. Age, sex and comorbid conduct disorders will be considered as potential causes of variance and their effect analysed through meta-regression and subgroup analysis. Sensitivity analyses will exclude articles with longer follow-ups, non-stringent definitions of ADHD or controls and statistically uncontrolled/controlled outcomes. Studies implementing a self-controlled case series methodology to investigate if ADHD drugs reduce the risk of injuries will be combined with a generalised linear mixed model using the Poisson distribution and a log link function.

Registration details
PROSPERO—Prospective Register of Systematic Reviews (CRD42017064967)