Educational and Health Outcomes of Children Treated for Attention-Deficit/Hyperactivity Disorder.

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Abstract

IMPORTANCE: Attention-deficit/hyperactivity disorder (ADHD) affects 39 million people worldwide; in isolation, it doubles annual health care costs and, when associated with comorbid mental health problems, it quadruples the costs.

OBJECTIVE: To compare the education and health outcomes of schoolchildren treated for ADHD with their peers.

DESIGN, SETTING, AND PARTICIPANTS: In this population-based cohort study, individual-level record linkage was performed of 8 Scotland-wide administrative databases covering dispensed prescriptions, admissions to acute and psychiatric hospitals, maternity records, annual pupil census, examinations, school absences and exclusions, and unemployment. The study cohort comprised 766,244 children attending Scottish primary, secondary, and special schools at any point between September 21, 2009, and September 18, 2013. Data analysis was performed from June 1, 2015, to December 6, 2016.

EXPOSURES: Medication approved solely for ADHD treatment.

MAIN OUTCOMES AND MEASURES: Special educational needs, academic attainment, unauthorized absence, exclusion, age at leaving school, unemployment after leaving, and hospitalization. Outcomes were adjusted for potential sociodemographic, maternity, and comorbidity confounders.

RESULTS: Of the 766,244 schoolchildren, 7,413 (1.0%) were treated for ADHD; 6,287 (84.8%) were male. These children had higher rates of unauthorized absence (adjusted incidence rate ratio [IRR], 1.16; 95% CI, 1.14-1.19) and exclusion (adjusted IRR, 5.79; 95% CI, 5.45-6.16), more commonly had a record of special educational need (adjusted odds ratio [OR], 8.62; 95% CI, 8.26-9.00), achieved lower academic attainment (adjusted OR, 3.35; 95% CI, 3.00-3.75), were more likely to leave school before age 16 years (1,546 [64.3%] vs 61,235 [28.4%]), and were more likely to be unemployed (adjusted OR, 1.39; 95% CI, 1.25-1.53). Children with ADHD were more likely to require hospitalization overall (adjusted hazard ratio [HR], 1.25; 95% CI, 1.19-1.31) and for injury (adjusted HR, 1.52; 95% CI, 1.40-1.65).

CONCLUSIONS AND RELEVANCE: Even while receiving medication, children with ADHD fare worse than their peers across a wide range of outcomes relating not only to education but also to health.