Differential Risk of Increasing Psychotropic Polypharmacy Use in Children Diagnosed with ADHD as Preschoolers.

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Abstract

OBJECTIVE:
To characterize treatment trajectories in children newly diagnosed with attention-deficit/hyperactivity disorder (ADHD).

METHODS:
We utilized billing records of children aged 3 to 18 years in 28 US states' Medicaid programs between 1999 and 2006. Children entered the cohort at the first ADHD diagnosis (ICD-9-CM: 314.00) preceded by ≥ 6 months with no psychotropic medication use and no psychiatric diagnoses. We followed children for 5 years to assess use of (1) psychotropic polypharmacy (the use of ≥ 3 psychotropic medication classes), (2) antipsychotics, and (3) anticonvulsants. We used mixed-effects logistic regression to model the probability of each utilization outcome as a function of age at ADHD diagnosis and follow-up year, adjusted for sociodemographic factors.

RESULTS:
Our cohort included 16,626 children of whom 79.2% received stimulants, 33.2% antidepressants, and 23.1% α-agonists, and 25.3% received psychotropic polypharmacy treatment at least once in a subsequent year. Antipsychotics (7.1%-14.7%), anticonvulsants (4.0%-7.9%), and psychotropic polypharmacy (8.5%-13.4%) use increased from year 1 to 5, but this increase was confined to children between ages 3 and 9 at ADHD diagnosis. Children diagnosed at age 3 had the most substantial increase in each outcome (OR = 1.80 [95% CI, 1.36-2.38]; 1.85 [1.38-2.47]; 2.14 [1.45-3.16]), respectively. Also, 39.1% of 9,680 children-years with psychotropic polypharmacy therapy had no psychiatric diagnoses other than ADHD.

CONCLUSIONS:
Psychotropic polypharmacy, antipsychotic, and anticonvulsant use increased with each year of follow-up. This effect was strongly mediated by the age of ADHD diagnosis with substantial increases in preschoolers but no corresponding effect in older children. It was only partially explained by physician diagnoses of concomitant mental disorders.