

ADHD and Polypharmacy – Where are we Going?

June 12, 2020

In a recently released issue of *Pediatrics* (<https://doi.org/10.1542/peds.2019-2832>), Heather Girand and colleagues from the Ferris State University College of Pharmacy in Grand Rapids Michigan examine psychotropic pharmaceutical prescribing for children and young adults with ADHD (attention deficit and hyperactivity disorder) over the period 2006-2015 using publicly available healthcare datasets.

Lydia Furman, MD, Associate Editor, *Pediatrics*

Content License: FreeView

Article type: [Pediatrics Blog](#)



In a recently released issue of *Pediatrics* (<https://doi.org/10.1542/peds.2019-2832>), Heather Girand and colleagues from the Ferris State University College of Pharmacy in Grand Rapids Michigan examine psychotropic pharmaceutical prescribing for children and young adults with ADHD (attention deficit and hyperactivity disorder) over the period 2006-2015 using publicly available healthcare datasets. Their study aim was to describe annual rates of ADHD medication prescribing and the

frequency of psychotropic polypharmacy among children and young adults ages 2-24 years with ADHD, and to assess if any patient or provider characteristics were associated with increased risk of polypharmacy. They used the National Ambulatory Medical Care Survey (which samples visits to physician offices) and the National Hospital Ambulatory Medical Care Survey (which samples visits to hospital outpatient departments) for the time period of interest for this cross-sectional study. The databases provide nationally representative samples of outpatient visits, and include variables of interest such as patient and provider demographics, diagnostic codes, and medications and therapies prescribed. The authors alert readers to the expectation that polypharmacy may be prevalent: they note that two thirds of children with ADHD have a co-morbid psychological or psychiatric condition, such as depression, anxiety, learning disability and autism, several of which may be treated with medication, and additionally, prior national data (through 2007) have shown a significant increase in co-prescription of ADHD medications and antipsychotics over time.

The study results are still relatively surprising, in that all rates of prescribing, including for ADHD medications and other psychiatric medications, and of polypharmacy, are meaningfully increased over time. ADHD medication prescribing alone (monotherapy) at any visit doubled from 4.8% (95% CI 3.9-5.9%) in 2006 to 8.4% (95% CI 5.4-12.9%) in 2015. ADHD polypharmacy (defined as prescribing more than one ADHD medication) tripled over that period (from 6.2% of visits in 2006 to 23.6% of visits in 2015)) and psychotropic polypharmacy (defined as prescribing another psychotropic in addition to an ADHD medication) doubled over the time period from 20.2% (2006) to an astounding 40.7% in 2015. Selective serotonin reuptake

inhibitors (SSRIs) were the most common other psychiatric medication prescribed (14.4% of all ADHD visits). Hopefully this relative deluge of numbers has you wondering... is this good or bad? Were these medications indicated and appropriate? The authors note that these findings, and other related findings well described in the paper, do not tell us whether this is good medicine or not – rather these results should serve as “eye-openers” and a springboard to additional research.

In multivariate analyses, several descriptors were significantly associated with both ADHD and psychotropic polypharmacy. Two of these factors, specifically geographic region and insurance type, lack biological plausibility and suggest uneven resource allocation rather than key treatment characteristics. On the other hand, receipt of psychotherapy or mental health counselling (distinguished as more general advice and a referral to a mental health professional) were associated with polypharmacy, a potentially reassuring finding if one surmises that the more clinically challenging the presentation, the more “all hands on deck” therapy the child is receiving. However, actual receipt of psychotherapy or mental health counselling was relatively low (Supplemental Table 4; 21-29% of visits with polypharmacy) despite their emphasis in clinical guidelines. This is a fascinating study that raises important, uncomfortable and thorny questions about trends in ADHD prescribing. Practicing pediatricians will find a lot of good information here, and a lot to ponder!

- [Clinical Practice Guideline for the Diagnosis, Evaluation, and Treatment of Attention-Deficit/Hyperactivity Disorder in Children and Adolescents](#)
- [Family Adverse Experiences and Psychotropic Polypharmacy Among US Youth: 2009–2015](#)
- [The Frontiers of Research About Attention-Deficit/Hyperactivity Disorder](#)
- [Facebook](#)
- [Instagram](#)

Copyright © 2020 American Academy of Pediatrics