

Study Explores Prescription Stimulant Use in Pregnancy and Risk of Neurodevelopmental Outcomes in Children

► **STUDY GOAL** Determine the potential association of mothers' stimulant use during early and late pregnancy with children's diagnoses of neurodevelopmental conditions, including diagnoses of autism spectrum disorders (ASD) or ADHD.

What is already known about the topic?

- Stimulant medication use among women has increased, and it is estimated that 1.2% of people in the US have taken ADHD medication during pregnancy.
- Associations between medication use in pregnancy and children's neurodevelopmental outcomes have rarely been studied.
- Many factors may lead to the development of neurodevelopmental disorders—including ADHD and ASD—making it difficult to study the specific impact of stimulant medication taken during pregnancy.



How was this study done?

- Researchers examined data—including demographics, healthcare usage, medical and neurodevelopmental diagnoses, and prescription medication use—from over 4 million publicly and privately insured pregnant women and their children in the US.
- Researchers looked at prescriptions filled for two kinds of stimulant medication during pregnancy: amphetamine/dextro-amphetamine and methylphenidate. They also looked at whether prescriptions were taken earlier or later in pregnancy.

Research Spotlight features studies on girls and women with ADHD and informs about the process. This *Spotlight* breaks down [Prescription Stimulant Use During Pregnancy and Risk of Neurodevelopmental Disorders in Children](#) published in January 2024.

■ TERM TO KNOW

Neurodevelopmental Disorders A group of conditions affecting nervous system development and functioning in areas such as communication, motor skills, social interaction and behavior; symptoms often appear in early childhood, but may not be noticed or diagnosed until adulthood

- The main study outcome was a child having ASD, ADHD, or any neurodevelopmental disorder diagnosis (e.g., specific learning disorders, developmental coordination disorders, intellectual disabilities, etc.).
- Researchers used special statistical methods to consider the influence of maternal characteristics that could impact the evolution of neurodevelopmental conditions in children (e.g., maternal ADHD, maternal age during pregnancy, past maternal mental health diagnoses, alcohol use, additional medication use during pregnancy, etc.).

What were the findings?

- 25,950 pregnant women had stimulant prescriptions filled during early pregnancy, and 8,188 had prescriptions filled during later pregnancy.
- Analyses that accounted for maternal characteristics did not find increased rates of ADHD, ASD, or overall neurodevelopmental disorders for pregnancies exposed to stimulant medication.
- While analyses that did not account for these maternal factors showed a link between medication in pregnancy and child neurodevelopmental disorders, these statistical relationships were not found when maternal factors were included in the analyses.

Why are these findings important?

- Findings show that taking stimulant medication during pregnancy does not appear to increase the risk of children having neurodevelopmental conditions when accounting for other characteristics of the mother such as age, ADHD diagnosis, and other mental health conditions.
- With women being diagnosed with ADHD at increasing rates, and more women entering child-bearing years taking medication for ADHD, these findings are important for patients who are making decisions about their care.

Women who have ADHD and are pregnant or considering pregnancy can:

- Discuss the benefits and risks of continuing or stopping their ADHD medication with their healthcare providers. Women and their healthcare providers should aim to develop a treatment plan they are comfortable with and that meets their individual needs.
- Consider behavioral therapy, such as Cognitive Behavioral Therapy (CBT) for ADHD, whether or not they take medication during pregnancy.
- Receive support from Postpartum Support International, which offers [support groups](#) for women with ADHD who are pregnant or have recently given birth.

Additional Information

- The Centers for Disease Control (CDC) has additional information about various kinds of medications and safety during pregnancy.
- More information for patients and providers about ADHD medication during pregnancy and the postpartum period can be found at the [Duke Center for Girls & Women with ADHD](#) and at [Mass General Hospital Center for Women's Mental Health](#). 