

Maternal ADHD Correlated with Increased Risk of Postpartum Depression

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Key Findings:

- Mothers with ADHD are 24% more likely to be diagnosed with postpartum depression than mothers without ADHD.

We recently noted that [attention deficit hyperactivity disorder \(ADHD\) diagnoses are increasing](#), especially in women of child-bearing age.¹ Additionally, the CDC noted that self-reported postpartum depression symptoms are also increasing.² A study of pregnant women in Sweden showed that women with ADHD are much more likely to be diagnosed with both postpartum depression (PPD) and postpartum anxiety, but the greatest risk was in those who had a history of depression and anxiety diagnoses.³

We wanted to understand whether pre-pregnancy ADHD without a history of depression was correlated with a mother’s risk of developing PPD. We studied 15,488 pregnancies for mothers with ADHD and 61,952 pregnancies for mothers without ADHD to assess the relative risk of PPD in both populations. We matched the two populations based on race and ethnicity of the mother, social vulnerability index, maternal age at delivery, singleton or multiple birth, pre-pregnancy anxiety diagnosis, and self-reported measures of substance use, food scarcity, intimate partner violence, and stress.

We found that mothers with ADHD who have no history of depression are 24% more likely to be diagnosed with PPD than mothers without ADHD who have no history of depression, as shown in Figure 1.

Postpartum Depression Rate in Mothers with and Without ADHD



"Postpartum Depression Rate in Mothers with and Without ADHD," 2023. EpicResearch.org

Figure 1. Rates of PPD in mothers with and without ADHD.

These data come from Cosmos, a HIPAA-defined Limited Data Set of more than 190 million patients from 208 Epic organizations including 1,197 hospitals and more than 25,400 clinics, serving patients in all 50 states and Lebanon. This study was completed by two teams that worked independently, each composed of a clinician and research scientists. The two teams came to similar conclusions.

References

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2. Bauman BL, Ko JY, Cox S, et al. Vital Signs: Postpartum Depressive Symptoms and Provider Discussions About Perinatal Depression – United States, 2018. *MMWR Morb Mortal Wkly Rep* 2020;69:575–581. DOI: <http://dx.doi.org/10.15585/mmwr.mm6919a2>
3. Andersson A, Garcia-Argibay M, Viktorin A, et al. Depression and anxiety disorders during the postpartum period in women diagnosed with attention deficit hyperactivity disorder. *J Affect Disord*. 2023;325:817-823. doi:10.1016/j.jad.2023.01.069

Data Definitions

Term	Definition
Study date	1/1/2018 – 3/1/2023
Study population	U.S. patients 18 and older with a documented delivery between 1/1/2018 and 3/1/2022 with at least one encounter in the year prior and one encounter a year after the delivery and no history of PPD or depression in the three years prior to delivery. Deliveries must have a birth weight and delivery method recorded, as well as a gestation time between 25 and 50 weeks, to be included.
Matching	Each mother with ADHD was matched to four mothers without ADHD based on the following criteria: <ul style="list-style-type: none"> • Race/Ethnicity (Hispanic, White, Black, Asian, Other, Unknown) • Social Vulnerability Index Quartile (current residence of mother) • Mother’s Age at Delivery Bucket (18-24, 25-29, 30-34, 35+) • Anxiety Diagnosis Before Delivery (Yes, No) • Multiple Delivery (Yes, No) • SDOH Substance Abuse (Yes, No, Unknown) • SDOH Food Scarcity (Yes, No, Unknown) • SDOH Intimate Partner Violence (Yes, No, Unknown) • SDOH Stress (Yes, No, Unknown)
ADHD diagnosis	An encounter or billing diagnosis with ICD-10-CM code F90*
Anxiety diagnosis	An encounter or billing diagnosis with ICD-10-CM code F40* or F41*
Depression diagnosis	An encounter or billing diagnosis with ICD-10-CM code F32*, F33*, F06.31, F06.32, or F06.34
Outcome	Postpartum depression diagnosis within one year of delivery
Postpartum depression (PPD) diagnosis	An encounter or billing diagnosis with ICD-10-CM code F53.0
SDOH matching criteria	The most recent answer to any of those questions recorded before the delivery, up to a year before. Unknown if the mother does not have an answer recorded.

Table 1: Postpartum Depression in Women with and Without ADHD

Population	Total	PPD Diagnosis	PPD Percent	Risk Ratio
ADHD Mothers	15,488	995	6.4%	1.24 (1.16-1.33)
Mothers w/o ADHD	61,952	3,212	5.2%	