

The Dangers of Antidepressants During Pregnancy

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✓ Fact Checked

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STORY AT-A-GLANCE

- › When used during pregnancy, antidepressant drugs known as selective serotonin reuptake inhibitors (SSRIs) may increase the risk of neurodevelopmental disorders
- › The animal study revealed SSRIs may interact with inflammation in the mother's body, producing a reaction that affects the maternal-fetal interface (MFI) and the fetus' developing brain
- › In utero, the fetus receives serotonin via the placenta during early pregnancy, and it's possible that altering serotonin levels with SSRIs could lead to brain changes
- › Adult offspring whose mothers were exposed to inflammation during pregnancy had sex-based behavioral changes, including lessened communication and low interest in social interactions, mimicking those seen in people with autism
- › The combination of maternal inflammation and SSRIs led to effects on MFI physiology and offspring neurobiology, impacting immune and serotonin signaling pathways

When used during pregnancy, antidepressant drugs known as selective serotonin reuptake inhibitors (SSRIs) may increase the risk of neurodevelopmental disorders.¹ The finding came from University of Virginia School of Medicine researchers, in a study supported by the National Institutes of Health's National Institute of Neurological Disorders and Stroke.

During pregnancy, everything from malnutrition, obesity and infections to mental health conditions may affect fetal development. Autoimmune conditions and exposure to

pollutants during pregnancy are known to alter neurodevelopment, while stress and depression in a pregnant women may also increase the risk of psychiatric conditions in her children.²

So it's not a stretch that exposure to medications in utero could also lead to lifelong neurodevelopmental changes, including those linked to autism.

Antidepressants During Pregnancy Linked to Brain Changes

Rates of autism have been steadily climbing for decades, rising more than 150% in the last 20 years. While 1 in 150 children was diagnosed with autism in 2000, this rose to 1 in 54 (among 8-year-olds) in 2016.³ In 2020, 1 in 30, or 3.49%, of children ages 3 to 17 were diagnosed with autism spectrum disorder (ASD).⁴

What's driving this change is the subject of intense debate, but the research, published in *Brain, Behavior, and Immunity*, suggests antidepressant drugs during pregnancy may play a role. The finding could have major implications for public health, considering that among pregnant women using antidepressants, 80% are prescribed SSRIs.⁵

The animal study revealed SSRIs may interact with inflammation in the mother's body, producing a reaction that affects the maternal-fetal interface (MFI), which includes the decidua (a mucous membrane lining the uterus) and placenta, and ultimately the fetus' developing brain.

Later in life, adult offspring whose mothers were exposed to inflammation during pregnancy had sex-based behavioral changes, including lessened communication and low interest in social interactions, mimicking those seen in people with autism.⁶

"Moreover," the researchers explained, "the combination of maternal inflammation in the presence of pharmacologic inhibition of serotonin reuptake further transformed MFI physiology and offspring neurobiology, impacting immune and serotonin signaling pathways alike."⁷

SSRIs work by altering serotonin levels in the body. While this “feel-good” hormone can boost mood, it’s also involved in immune response. In utero, the fetus receives serotonin via the placenta during early pregnancy, and it’s possible that altering serotonin levels with SSRIs could lead to brain changes.

“Maternal SSRI intake can potentially lead to systemic disruption of serotonergic signaling,” the researchers wrote, adding that circulating and tissue-based immune cells, developing neural cells as well as placental cells known as syncytiotrophoblasts and cytotrophoblasts use serotonin-related transporters and signaling:⁸

“SSRI action on any or all of these populations could therefore potentially impact neurodevelopment. Our findings reveal that SSRI exposure alone can modulate the expression of genes involved in immune and serotonin signaling at the maternal-fetal interface.

Immune cell function can be directly impacted by SSRI exposure in the mother and embryo, both of which could potentially affect neurodevelopment given that maternal and embryonic immune cells contribute to both placental support and neurodevelopment.”

Further, the combination of SSRIs and inflammation may be particularly disruptive. According to researcher Kristine Zengeler:⁹

“We found that mothers who encountered an immune challenge during pregnancy showed a totally different signature in the placenta when they were on SSRIs compared to mothers that were not on SSRIs. This highlights the importance of considering the entire prenatal environment, as drugs designed to dampen inflammation may lead to unanticipated consequences on the baby if they are combined with other modulators, such as SSRIs.”

Tylenol During Pregnancy Linked to Autism

The featured study looked into the effects of SSRIs during pregnancy, but an important point to note is that other medications and environmental exposures may also have

detrimental effects on development. Even [acetaminophen](#), brand name Tylenol, which many consider to be completely innocuous, is linked to autism when used during pregnancy.

Compared to children of mothers with the lowest acetaminophen burden during pregnancy, children of those in the second tertile had a 226% higher risk of being diagnosed with attention deficit hyperactivity disorder (ADHD), and a 214% higher risk of an ASD diagnosis, by the time they were about 10 years old (average age 9.8 years).¹⁰

Those with the greatest acetaminophen burden had a 286% higher risk for ADHD and a 362% higher risk for ASD. As noted by the authors, their findings "support previous studies regarding the association between prenatal and perinatal acetaminophen exposure and childhood neurodevelopmental risk."¹¹

A 2016 Spanish investigation published in the *International Journal of Epidemiology* also found children whose mothers used acetaminophen during pregnancy were 41% more likely to present with ADHD symptoms at age 5 while boys were also more likely to have ASD.¹²

A 2017 study even claimed, "The use of acetaminophen in babies and young children may be much more strongly associated with autism than its use during pregnancy, perhaps because of well-known deficiencies in the metabolic breakdown of pharmaceuticals during early development."¹³

Additional Risks of SSRIs During Pregnancy

In addition to potential neurodevelopmental effects, the use of SSRIs during pregnancy has been linked to other significant health effects. A systematic review and meta-analysis found women who received SSRIs during pregnancy had a significantly higher risk of developing preterm birth than women in the control group.¹⁴

The use of SSRIs during early pregnancy has also been linked to an increased risk of major congenital anomalies and congenital heart defects.¹⁵ In a review published in the

International Journal of Risk & Safety in Medicine, Dr. Adam Urato of Tufts University further noted:¹⁶

“They [SSRIs] do not appear to be helpful medications that produce better outcomes for moms and babies ... The totality of the scientific evidence convincingly suggests that the SSRI antidepressants are chemicals that do cause fetal harm and that the FDA should strongly consider changing the FDA Category from C to D for the entire class.

This move would provide appropriate warning to the public while still allowing for use in selected cases.”

In 2019, a review published in Lancet Psychiatry also found that maternal SSRI use during pregnancy was associated with increased risk of ASD in offspring.¹⁷ They’ve also been linked with an increased risk of neonatal seizures in newborns,¹⁸ as well as an increased likelihood for postpartum hemorrhage in women.¹⁹

Are Antidepressant Risks Worth It?

Depression is a debilitating illness that requires effective treatment, but are the risks of antidepressants worth it – during pregnancy or otherwise? The fact is, antidepressant medications remain a first-line treatment for depression,²⁰ even though two-thirds of depressed patients don’t respond well to them.²¹

In 2022, the most comprehensive analysis of antidepressant clinical trial data to date was published.²² The study, which was conducted by researchers at the U.S. Food and Drug Administration and colleagues, included all antidepressant clinical trial data submitted to the FDA between 1979 and 2016, including unpublished trials. In all, 232 randomized, double-blind, placebo-controlled trials involving 73,388 patients diagnosed with depression were analyzed.

The evidence showed antidepressants outperformed placebo in only 15% of patients – and almost exclusively in those with the most severe depression. In short, the reason

many believe they're getting a benefit from these drugs is because of the placebo effect and nothing else.

This supports previous research, which found the placebo effect accounts for anywhere between 30%²³ and 67%²⁴ of the antidepressant treatment effect, and that placebo is just as effective as antidepressants in those with mild to moderate depression.²⁵ In addition to risks to the fetus during pregnancy, SSRIs have other known side effects, including:

- Increased risk of suicidal behavior²⁶
- Increased risk of developing Type 2 diabetes²⁷
- Thickening of the greater carotid intima-media (the lining of the main arteries in your neck that feed blood to your brain),²⁸ which could contribute to the risk of heart disease and stroke
- An increased risk of dementia; as the dose increases, so does the risk for dementia²⁹

Safer Options for Depression

If you're struggling with depression and want to avoid antidepressant drugs, know that there are other options available. Many of these are also options that could safely be implemented during pregnancy:

- **Optimize your gut health** — The microbiota-gut-brain (MGB) axis plays a role in the physiological and behavioral functions that are often affected in depression.

It's known, for instance, that your gut microbiota impacts brain function and depressive behavior, while people with depression have been found to have altered gut microbiota composition.³⁰ Fermented foods, which are naturally rich in probiotics, should be consumed regularly to support **gut health** and corresponding mental health.

- **Consume omega-3 fats** — Omega-3 fats have been shown to improve major depressive disorder,³¹ so make sure you're getting enough omega-3s in your diet,

either from wild Alaskan salmon, sardines, herring, mackerel and anchovies, or a high-quality supplement. I recommend getting an omega-3 index test to make sure you're getting enough. Ideally, you want your omega-3 index to be 8% or higher.

- **Consider magnesium** — Subclinical magnesium deficiency is common and leads to numerous mental health issues, while symptoms of magnesium deficiency may include depression, confusion and agitation.³²

Individuals with depression are also known to have lower magnesium levels in the blood,³³ brain³⁴ and cerebral spinal fluid.³⁵ Only magnesium L-threonate, as opposed to magnesium chloride or magnesium gluconate, increases cerebrospinal fluid magnesium levels and improves cognition in animal models,³⁶ while a randomized equivalent trial found that oral magnesium supplementation was just as effective as an antidepressant for improving mood.³⁷

- **Exercise** — Exercise acts as a natural antidepressant³⁸ that may help prevent prenatal depression.³⁹ Even gentle forms of exercise can be effective. A 90-minute yoga session three times a week reduced symptoms of major depression by at least 50%, for instance.⁴⁰
- **Optimize your vitamin D levels** — Studies have shown vitamin D deficiency can predispose you to depression and that depression can respond favorably to optimizing your vitamin D stores, ideally by getting sensible sun exposure.^{41,42}

If you're currently on an antidepressant and want to get off it, ideally, you'll want to have the cooperation of your prescribing physician. With their guidance, start lowering the dosage of the medication you're taking. There are protocols for gradually reducing the dose that your doctor should be well aware of.

A holistic psychiatrist will have a number of treatment options in their tool box that conventional doctors do not, and will typically be familiar with nutritional supplementation to help on your journey.

Dr. Peter Breggin's book, "Psychiatric Drug Withdrawal: A Guide for Prescribers, Therapists, Patients and Their Families,"⁴³ and/or "The Antidepressant Solution: A Step-

by-Step Guide to Overcoming Antidepressant Withdrawal, Dependence, and Addiction” by Dr. Joseph Glenmullen⁴⁴ are additional resources that may help.

If you are feeling desperate or have any thoughts of suicide and reside in the U.S., please call the National Suicide Prevention Lifeline by dialing 988, or call 911, or simply go to your nearest hospital emergency department.

You cannot make long-term plans for lifestyle changes when you are in the middle of a crisis. U.K. and Irish helpline numbers can be found on [TherapyRoute.com](https://www.therapyroute.com). For other countries, do an online search for “suicide hotline” and the name of your country.

Sources and References

- ^{1, 2} Brain, Behavior, and Immunity February 2023, Volume 108, Page 80-97
- ³ UHealth Collective January 3, 2022
- ⁴ Children’s Health Defense July 14, 2022
- ^{5, 6, 9} UVA Health Newsroom December 19, 2022
- ⁷ Brain, Behavior, and Immunity February 2023, Volume 108, Page 80-97, Abstract
- ⁸ Brain, Behavior, and Immunity February 2023, Volume 108, Page 80-97, Discussion
- ¹⁰ JAMA Psychiatry October 30, 2019 doi: 10.1001/jamapsychiatry.2019.3259
- ¹¹ JAMA Psychiatry October 30, 2019 doi: 10.1001/jamapsychiatry.2019.3259, Conclusions and Relevance
- ¹² International Journal of Epidemiology 2016 Dec 1;45(6):1987-1996
- ¹³ Int Med Res. 2017 Apr;45(2):407-438
- ¹⁴ BJOG. 2016 Nov;123(12):1900-1907. doi: 10.1111/1471-0528.14144. Epub 2016 May 30
- ¹⁵ BMC Med. 2018 Nov 12;16(1):205. doi: 10.1186/s12916-018-1193-5
- ¹⁶ Int J Risk Saf Med. 2015;27(2):93-9. doi: 10.3233/JRS-150646
- ¹⁷ Lancet Psychiatry. 2019 Jul;6(7):590-600. doi: 10.1016/S2215-0366(19)30181-6
- ¹⁸ J Clin Psychopharmacol. 2019 Sep/Oct;39(5):479-484. doi: 10.1097/JCP.0000000000001093
- ¹⁹ BJOG. 2020 Oct;127(11):1366-1373. doi: 10.1111/1471-0528.16210. Epub 2020 Apr 1
- ²⁰ UpToDate, Patient education: Depression treatment options for adults May 2022
- ^{21, 30} Translational Psychiatry June 3, 2022, Intro
- ²² BMJ 2022; 378: e067606
- ²³ Dialogues in Clinical Neuroscience March 2002; 4(1): 105-113
- ^{24, 25} Neuropsychiatric Disease Treatment 2013; 9: 915-920
- ²⁶ CNS Drugs. 2014 Jan;28(1):79-88. doi: 10.1007/s40263-013-0120-8
- ²⁷ PLOS One July 31, 2017
- ²⁸ Emory April 4, 2011
- ²⁹ J Clin Psychiatry. 2016 Jan;77(1):117-22; quiz 122
- ³¹ Translational Psychiatry (2016) 6, e756

- ³² Br Med J 1967;2:195
- ³³ Metab Brain Dis 2019;34:1493-503
- ^{34, 35} Med Hypotheses 2010;74:649-60
- ³⁶ Neuron 2010;65:165-77
- ³⁷ Magnes Res 2008;21:218-23
- ³⁸ Neurosci Biobehav Rev. 2019 Dec;107:525-539
- ³⁹ J Perinat Med. 2021 Sep 6;50(1):4-17. doi: 10.1515/jpm-2021-0315. Print 2022 Jan 27
- ⁴⁰ Journal of Alternative and Complementary Medicine March 1, 2017; 23(3)
- ⁴¹ Journal of Internal Medicine 264(6); 599-609
- ⁴² Asia Pac J Clin Nutr. 2019;28(4):689-694. doi: 10.6133/apjcn.201912_28(4).0003
- ⁴³ Psychiatric Drug Withdrawal: A Guide for Prescribers, Therapists, Patients and Their Families by Peter R. Breggin MD
- ⁴⁴ The Antidepressant Solution: A Step-by-Step Guide to Overcoming Antidepressant Withdrawal, Dependence, and Addiction by Joseph Glenmullen