



ADHD Linked to Prenatal Antidepressant Use

By Dr. Mercola
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More than one in 10 Americans take an antidepressant, and that number jumps to *one in four* among women aged 50 to 64.¹ They're the most commonly prescribed class of medication other than antibiotics,² but despite their overwhelming popularity there's an important question that needs to be answered: do they work?

Overwhelming evidence shows that antidepressants do not work as advertised. In fact, at best, antidepressants are comparable to placebos, and at worst they can cause devastating side effects, including suicidal and [homicidal tendencies](#), and deterioration into even *more serious* mental illness.

A Closer Look at Antidepressant Research...

A study in the January 2010 issue of The Journal of the American Medical Association (JAMA) concluded that there is little evidence that SSRIs (a popular group of antidepressants that includes Prozac, Paxil, Zoloft, and others) have any benefit to people with mild to moderate depression (the group to which they're most often prescribed), and they work no better than a placebo.³ Those researchers concluded:

"The magnitude of benefit of antidepressant medication compared with placebo increases with severity of depression symptoms and may be minimal or nonexistent, on average, in patients with mild or moderate symptoms."

A meta-analysis published in PLoS Medicine also concluded that the difference between antidepressants and placebo pills is very small—and that both are ineffective for most depressed patients.⁴ Only the most severely depressed showed any response to antidepressants at all, and that response was quite minimal.

Research by Irving Kirsch, a psychologist at the University of Hull in the UK, and colleagues presented another interesting theory -- that the side effects produced by antidepressants are the reason why they are sometimes perceived to work better.

In Kirsch's book, *The Emperor's New Drugs: Exploding the Antidepressant Myth*, he describes research he conducted using placebo-controlled clinical trials submitted to the US Food and Drug Administration (FDA).

A review of 42 trials revealed that placebos were 82 percent as effective as antidepressants, which translates to a 1.8-point difference on the Hamilton Depression Scale (which is used to measure symptoms of depression).

Though "significant" clinically speaking, this difference would not mean much whatsoever on a treatment level. Next, Kirsch also found in the research that virtually any pill that produced side effects was just slightly more effective at relieving depression than placebo. This included thyroid hormones, herbal remedies, stimulants, sedatives, and others.

So, the antidepressants did not appear to be unique in this action, since virtually every pill given produced the same results. What was really going on? Well, the purpose of keeping a study double-blind, meaning neither the patient nor the researcher knows if they're taking an active pill or a placebo, is to prevent bias. It's well known that if a person believes they're taking an active drug, they are more likely to "feel" a benefit.

Kirsch reasoned that when a person experienced a side effect, it tipped them off that they were taking an active antidepressant rather than a placebo, and this is what gave them the slight advantage.

To test this, Kirsch then investigated trials involving an "active" placebo, meaning one that causes a side effect, and lo and behold there was absolutely no difference found between the antidepressant and the active placebo. Maria Angell, former editor-in-chief of *The New England Journal of Medicine*, noted:

"Everyone had side effects of one type or another, and everyone reported the same level of improvement. Kirsch reported a number of other odd findings in clinical trials of antidepressants, including the fact that there is no dose-response curve—that is, high doses worked no better than low ones—which is extremely unlikely for truly effective drugs.

'Putting all this together,' writes Kirsch, leads to the conclusion that the relatively small difference between drugs and placebos might not be a real drug effect at all.

Instead, it might be an enhanced placebo effect, produced by the fact that some patients have broken [the] blind and have come to realize whether they were given drug or placebo. If this is the case, then there is no real antidepressant drug effect at all."

The Web That Pharma Weaves



Every year, \$11 billion is spent on antidepressants.⁶ The pharmaceutical companies that manufacture them have hundreds of lobbyists, and they underwrite more than 70 percent of FDA trials. As explained by Kelly Brogan, MD:

“They [pharmaceutical companies] court physicians, give them samples, tell patients to ‘ask their doctor,’ pay consultants to speak at scientific meetings, advertise in medical journals, fund medical education, and ghostwrite, cherry pick and redundantly submit data for publication.

Psychiatric studies funded by pharma are 4x more likely to be published if they are positive, and only 18% of psychiatrists are disclosing their conflicts of interests when they publish data. Their studies allow:

- *Placebo washout (getting rid of those who are likely to respond to placebo before the study to strengthen the perceived benefit)*
- *Replacement of non-responders*
- *Breaking blind by using inert placebos so that subjects know that they have received the treatment*
- *Use of sedative medications concurrent to study medications”*

Meanwhile, in an interview, Pulitzer Prize nominee Robert Whitaker also explained that research suggests the use of antidepressant drugs may actually result in more relapses back into depression in the long run. In other words, these drugs may be turning depression into a more chronic condition.

According to Whitaker’s research, this tendency to sensitize the brain to long-term depression appears to be the same both for the earlier tricyclic antidepressants and the newer SSRIs (selective serotonin reuptake inhibitors).

Another famous psycho-pharmacologist named Ross Baldessarini at the Harvard Medical School also began asking whether or not these drugs may in fact be depressogenic (causing depression). Unfortunately, the evidence points that way, and the long-term prognosis when taking antidepressants is quite bleak, as this type of drug treatment has a whopping 85 percent chronic relapse rate.

Antidepressants May Change the Way Your Brain Functions

Most of you have also probably heard that depression is due to a “chemical imbalance in your brain,” which these drugs are designed to correct. Unfortunately for anyone who has ever swallowed this marketing ploy, this is NOT a scientific statement.



“The low serotonin theory arose because they understood how the drugs acted on the brain,” Whitaker explained. “But it was just a hypothesis borne to try to explain why the drug might be fixing something. They investigated whether people had low serotonin... [But] in 1983, NIMH concluded that there is no evidence that there is anything wrong in the serotonergic system of depressed patients.

And this was in 1983 before Prozac was released. So there was never evidence that people with depression characteristically had low levels of serotonin. As one doctor I interviewed about this who did some of this research said, ‘The serotonin theory of depression is comparable to the masturbatory theory of insanity.’ It’s just not a scientific statement.”

Making matters worse, if you do not have low serotonin levels when you’re depressed, but you start taking an SSRI drug that blocks the normal reuptake of serotonin, you end up with the very physiological problem the drug is designed to treat – low serotonin levels. Which, ironically, is the state hypothesized to bring on depression in the first place. In 1996, neuroscientist Steven Hyman, who was head of the National Institute of Mental Health (NIMH) at the time, published the paper *Initiation and Adaptation: A Paradigm for Understanding Psychotropic Drugs*,⁷ in which he explains this chain of events.

According to Dr. Hyman, once your brain has undergone these compensatory adaptations to the drug, your brain operates in a manner that is “both qualitatively and quantitatively different than normal.” As Whitaker explained, antidepressants are not actually “normalizing” agents but could be more aptly described as “abnormalizing” agents.

What are the Side Effects of Antidepressants?

You may have heard a lot about the side effects of antidepressant drugs, but do you know what they actually are? For starters, antidepressants raise your risk of bleeding and stroke,⁸ and a large study of post-menopausal women found that those taking tricyclic antidepressants or SSRIs were 45 percent more likely to suffer a fatal stroke.⁹ The research also found that overall death rates were 32 percent higher in women on the drugs, while other research linked antidepressant use to thicker arteries, which could contribute to the risk of heart disease and stroke.¹⁰ Aside from potentially lethal cardiac events, other serious side effects include:

- *Suicidal thoughts and feelings and violent behavior*
- *Increased risk of type 2 diabetes*
- *Problems with your immune system: SSRIs cause serotonin to remain in your nerve junctions longer, interfering with immune cell signaling and T cell growth* ¹¹



- *Brittle bones: Research suggests taking an SSRI may double your risk of bone fractures.¹² This is because serotonin is also involved in the physiology of bone. If you alter serotonin levels with a drug, it can result in low bone density, boosting fracture risk*

Antidepressant Use During Pregnancy Linked to ADHD

Antidepressants are said to be safe during pregnancy, even though research shows taking SSRIs when you're pregnant may increase the risks of low birth weight, preterm birth, fetal death, infant death, neonatal seizures, and the need for mechanical ventilation.¹³ Recently, it was also found that children born to women who took antidepressants during pregnancy were more likely to develop attention-deficit hyperactivity disorder (ADHD).¹⁴

And, research shows that boys with autism are three times more likely to have been exposed to antidepressants known as selective serotonin reuptake inhibitors (SSRIs) in utero than non-autistic boys.¹⁵ Those whose mothers used SSRIs during the first trimester were found to be at greatest risk. The recent ADHD/antidepressant study also found a link between taking antidepressants during pregnancy and the risk of autism in the offspring, although it became less significant when maternal history of severe depression was taken into account.¹⁶

Is It a Coincidence That Antibiotics are the #1 Prescribed Drug and Antidepressants #2?

The fact that antibiotics are the most commonly prescribed drug class in the US, and antidepressants the second, deserves attention.¹⁷ If you take antibiotics, it will wipe out the beneficial bacteria in your gut, leading to an imbalance. In turn, unhealthy gut flora can have a detrimental impact your brain health, leading to issues like anxiety and depression, hence the resulting use of antidepressants. A better solution may be to improve your mental health by way of your gut. The gut-brain connection is well recognized as a basic tenet of physiology and medicine, so this isn't all that surprising, even though it's often overlooked.

There's also a wealth of evidence showing intestinal involvement in a variety of neurological diseases. For instance, a study conducted by researchers at UCLA found that probiotics (beneficial bacteria) actually altered participants' brain function.¹⁸ Compared to the controls, the women who consumed probiotic yogurt had decreased activity in two brain regions that control central processing of emotion and sensation:

- *The insular cortex (insula), which plays a role in functions typically linked to emotion (including perception, motor control, self-awareness, cognitive functioning, and interpersonal experience) and the regulation of your body's homeostasis*
- *The somatosensory cortex, which plays a role in your body's ability to interpret a wide variety of sensations*



Previous studies have confirmed that what you eat can alter the composition of your gut flora. Specifically, eating a high-vegetable, fiber-based diet produces a profoundly different composition of microbiota than a more typical Western diet high in carbs and processed fats. It's also important to realize that you have neurons both in your brain and your gut -- including neurons that produce neurotransmitters like serotonin. In fact, the greatest concentration of serotonin, which is involved in mood control, depression, and aggression, is found in your intestines, not your brain. Previous research has also shown that certain probiotics can help alleviate anxiety:

- *The Journal of Neurogastroenterology and Motility reported the probiotic known as Bifidobacterium longum NCC3001 normalized anxiety-like behavior in mice with infectious colitis by modulating the vagal pathways within the gut-brain.*¹⁹
- *Other research found that the probiotic Lactobacillus rhamnosus had a marked effect on GABA levels—an inhibitory neurotransmitter that is significantly involved in regulating many physiological and psychological processes—in certain brain regions and lowered the stress-induced hormone corticosterone, resulting in reduced anxiety- and depression-related behavior.*²⁰ *It is likely other Lactobacillus species also provide this benefit, but this was the only one that was tested.*

This also has implications for children, as your baby gets his or her first "inoculation" of gut flora from the mother's birth canal during childbirth, which is why a mother's use of antibiotics during pregnancy can predispose to a variety of ailments, as the antibiotic severely disrupts the natural microflora — in the mother's bowels and vagina. It's important to understand that if *mother's* flora is abnormal, her baby's flora will also be abnormal, as whatever organisms live in her vagina end up coating her baby's body and lining his or her intestinal tract.

Restoring Your Mental and Emotional Health Naturally

If you are experiencing severe depression, please seek help from a professional. For milder depression, and in addition to professional treatment for severe depression, the place to start is to return *balance*—to your body and your life. Fortunately, research confirms that there *are* safe and effective ways to address depression that do *not* involve unsafe drugs. This includes addressing your gut health, as mentioned above, and more:

- *Dramatically decrease your consumption of sugar (particularly fructose), grains, and processed foods. (In addition to being high in sugar and grains, processed foods also contain a variety of additives that can affect your brain function and mental state, especially MSG and artificial sweeteners such as aspartame.) There's a great book on this subject, The Sugar Blues, written by William Dufty nearly 40 years ago, that delves into the topic of sugar and mental health in great detail.*
- *Increase consumption of probiotic foods, such as fermented vegetables and kefir, to promote healthy gut flora. Mounting evidence tells us that having a healthy gut is profoundly important for both physical and mental health, and the latter can be severely impacted by an imbalance of intestinal bacteria. Avoiding sugar will also help toward this end.*



- *Get adequate vitamin B12. Vitamin B12 deficiency can contribute to depression and affects one in four people.*
- *Optimize your vitamin D levels, ideally through regular sun exposure. Vitamin D is very important for your mood. In one study, people with the lowest levels of vitamin D were found to be 11 times more prone to be depressed than those who had normal levels.²¹ The best way to get vitamin D is through exposure to sunshine or a safe tanning bed, not swallowing a pill.*
- *Get plenty of animal-based omega-3 fats. Many people don't realize that their brain is 60 percent fat, but not just any fat. It is DHA, an animal-based omega-3 fat, which, along with EPA, is crucial for good brain function and mental health.²² Unfortunately, most people don't get enough from diet alone. Make sure you take a high-quality omega-3 fat, such as krill oil, or consume sardines or anchovies regularly. Dr. Stoll, a Harvard psychiatrist, was one of the early leaders in compiling the evidence supporting the use of animal based omega-3 fats for the treatment of depression. He wrote an excellent book that details his experience in this area called *The Omega-3 Connection*.*
- *Evaluate your salt intake. Sodium deficiency actually creates symptoms that are very much like those of depression. Make sure you do NOT use processed salt (regular table salt), however. You'll want to use an all-natural, unprocessed salt like Himalayan salt, which contains more than 80 different micronutrients.*
- *Get adequate daily exercise, including high-intensity exercise, which is one of the most effective strategies for preventing and overcoming depression. Studies on exercise as a treatment for depression have shown there is a strong correlation between improved mood and aerobic capacity. So there's a growing acceptance that the mind-body connection is very real, and that maintaining good physical health can significantly lower your risk of developing depression in the first place.*
- *Get adequate amounts of sleep. You can have the best diet and exercise program possible, but if you aren't sleeping well you can easily become depressed. Sleep and depression are so intimately linked that a sleep disorder is actually part of the definition of the symptom complex that gives the label depression. Most people need eight hours a night, which is nearly one hour less than most people get.*

