

# More Than 200 Prescriptions Are Known to Cause Depression

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#### STORY AT-A-GLANCE

- > Depression can stem from a wide variety of biological, psychological and environmental factors, including other medications. More than 200 drugs have depression as a listed side effect
- > Thirty-eight percent of American adults are on one or more medications that can cause depression as a side effect. Nearly 10% are on three drugs or more known to cause depression
- > Seven percent of people who used just one drug associated with depression reported depression. Among those taking two drugs capable of causing depression, the depression rate was 9%
- > Those taking three or more drugs known to have depression as a side effect had three times the rate of depression as those who used drugs that did not have depression as a known side effect — 15% compared to 5%
- Many drugs also raise your risk of suicidal ideation, and the proportion of adults taking at least one drug where suicide is a potential side effect reached 24% as of 2014, up from 17% in 2005

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Historically, conventional science views depression as a side effect of a chemical imbalance in the brain. Most pharmaceutical-oriented solutions for depression still to

this day revolve around this theory, even though the serotonin-hypothesis has been largely debunked.<sup>1</sup> As noted in a 2014 paper on antidepressants:<sup>2</sup>

"Antidepressants are supposed to work by fixing a chemical imbalance, specifically, a lack of serotonin in the brain ... But analyses of the published data and the unpublished data that were hidden by drug companies reveals that most (if not all) of the benefits are due to the placebo effect ...

Analyzing the data ... we were not surprised to find a substantial placebo effect on depression. What surprised us was how small the drug effect was.

Seventy-five percent of the improvement in the drug group also occurred when people were given dummy pills with no active ingredient in them. The serotonin theory is as close as any theory in the history of science to having been proved wrong. Instead of curing depression, popular antidepressants may induce a biological vulnerability making people more likely to become depressed in the future."

### **Placebo Accounts for Most of the Benefits of Antidepressants**

The author of that 2014 study, Irving Kirsch, is a psychotherapist who has performed a number of analyses on antidepressants. In 2002, his team filed a Freedom of Information Act request to the U.S. Food and Drug Administration (FDA), asking for the trial data provided by drug companies as part of the drug approval process.

The FDA requires drug companies to provide data on all clinical trials they've sponsored, including unpublished trials. It turned out nearly half of all clinical trials on antidepressants remained unpublished. When both published and unpublished trials were included, 57% showed the drug had no clinical benefit over placebo. What's more, the placebo response accounted for 82% of the beneficial response to antidepressants.

These results were reproduced in a 2008 study<sup>3</sup> using another, even larger set of FDA trial data. Indeed, we now know that depression is far more complicated than previously assumed. "Fixing" depression is not as easy as tweaking the levels of chemicals in your

brain with an antidepressant drug. Depression can stem from a wide variety of biological, psychological and environmental factors — including other medications.

### **Hundreds of Commonly Used Drugs Can Cause Depression**

With depression,<sup>4</sup> anxiety and suicide all on the rise, it's becoming increasingly crucial to get to the root causes of all this misery. An astounding 1 in 6 Americans are now on psychiatric medication. Among adult women, the ratio is 1 in 4.5 Despite such pervasive antidepressant use, we've not seen any improvement at all in depression rates. On the contrary, it just seems to be getting worse.

Part of the problem appears to be antidepressants themselves. As noted by Kirsch, these drugs "induce biological vulnerability" that actually raises your risk of chronic and/or worsening depression. But other nonpsychiatric drugs also play a role, and this is something few are aware of or take into consideration. According to recent research, 67,8,9,10 38% of American adults are on one or more medications that can cause depression as a side effect.

Nearly 10% are on three drugs or more known to cause depression. "Importantly, many of the medications associated with depression as a potential side effect include commonly used prescription drugs — some of which are also available over-the-counter without a prescription," lead author Dima Qato, a pharmacy researcher at the University of Illinois, told Reuters.<sup>11</sup>

Unfortunately, few ever take the time to investigate the typically long list of potential side effects for each and every drug they take. Fewer still suspect medication as the culprit when their mood takes a nosedive. Doctors are also more likely to simply prescribe an antidepressant than do the detective work required to determine whether the depression might be caused by a drug you're on.

#### Is Your Depression the Result of a Drug You're Taking?

To assess the potential influence of drug use on depression rates, the researchers analyzed the medication use patterns of more than 26,190 adults between 2005 and 2014. Overall, nearly 8% reported depression. Seven percent of people who used just one drug associated with depression reported depression.

Among those taking two drugs capable of causing depression, the depression rate was 9%. Not surprisingly, those taking three or more drugs known to have depression as a side effect had three times the rate of depression as those who used drugs that did not have depression as a known side effect -15% compared to 5%.

Importantly, those who took antidepressants in combination with one or more drugs known to cause depression also had a higher risk of depressive symptoms than antidepressant users who did not take other drugs that have depression as a side effect. This could well be yet another reason for why so few people achieve relief from their antidepressants. Qato told PsyPost:12

"The take away message of this study is that polypharmacy can lead to depressive symptoms and that patients and health care providers need to be aware of the risk of depression that comes with all kinds of common prescription drugs — many of which are also available over the counter.

People are not only increasingly using these medicines alone, but are increasingly using them simultaneously, yet very few of these drugs have warning labels, so until we have public or system-level solutions, it is left up to patients and health care professionals to be aware of the risks.

With depression as one of the leading causes of disability and increasing national suicide rates, we need to think innovatively about depression as a public health issue, and this study provides evidence that patterns of medication use should be considered in strategies that seek to eliminate, reduce or minimize the impact of depression in our daily lives."

### More Than 200 Drugs Have Depression as a Side Effect

In all, the team identified more than 200 prescription drugs that have depression as a listed side effect, including:

Proton pump inhibitors, H2 antagonists and antacids used to treat heartburn and ulcers	Beta-blockers used to treat high blood pressure
Birth control pills and emergency contraceptives	Interferons used to treat cancer and certain viral infections
Anticonvulsants like gabapentin	Certain allergy medications
Corticosteroids like prednisone	Prescription-strength ibuprofen and other pain medication

Barbara Mintzes, a pharmacy researcher at the University of Sydney in Australia, commented on the study saying:13

"If a person develops depression, especially without being able to pinpoint a clear reason for it, it's always important to ask their doctor whether any of the medicines they're taking might cause depression as a side effect. Patients who do develop depression as a drug side effect can often switch to different prescriptions."

#### Many Drugs Can Also Trigger Thoughts of Suicide

Disturbingly, many of these drugs also raise your risk of suicidal ideation, and the proportion of adults taking at least one drug where suicide is a potential side effect hit 24% as of 2014, up from 17% in 2005. Could this be part of the answer as to why suicide rates are at an all-time high as well? Statistics reveal suicide rates rose 28% between 1999 and 2015. In 2016, nearly 45,000 Americans committed suicide, making it the 10th most common cause of death that year.

Along with drug overdoses and Alzheimer's disease, suicide is one of three leading causes of death that are on the rise. Both depression and suicide has also skyrocketed among children and teens, conveniently mirroring a rapid increase in the use of drugs.

This includes antidepressants but also many other drugs identified as high-risk for triggering depression, such as birth control pills and drugs for heartburn, allergies and pain. Even toddlers are receiving psychostimulant drugs such as Ritalin these days.<sup>15</sup>

Among young girls (aged 10 to 19), the suicide rate rose by 70% between 2010 and 2016 alone. Granted, several other depression-inducing factors have also increased in recent years, including the use of social media in lieu of face-to-face contact, and chronic, excessive exposure to electromagnetic fields (EMF), but rising use of medicines that have depression as a side effect could be a significant contributor or exacerbating factor.

## **Other Oft-Ignored Underlying Causes of Depression**

Aside from drug side effects, other factors known to contribute to depression that are frequently ignored or overlooked include the following (keep in mind that this is not an exhaustive list):

**Chronic inflammation** — A growing number of scientists claim depression results primarily from inflammation. In fact, depressive symptoms may actually be downstream manifestations of inflammation. This is because when cytokines, a group of proteins, trigger inflammation in your body, it causes your brain to go into "sickness mode." <sup>16</sup>

George Slavich, a clinical psychologist at the University of California, who has spent years studying depression told The Guardian,<sup>17</sup> "I don't even talk about it as a psychiatric condition any more. It does involve psychology, but it also involves equal parts of biology and physical health."

Researchers have also found that certain classes of depression, such as postpartum depression, melancholic depression and bipolar disorder, are linked to elevated cytokine levels, along with decreased cortisol (a stress hormone that protects against inflammation) sensitivity.<sup>18</sup>

**Gut dysfunction and inflammation** — Inflammation specifically in the gut has also been linked to depression. It's believed that a disruption in the gut-brain axis is the main cause of inflammation. Keep in mind that your gut is your second brain, as it is made from the same tissue as your brain during fetal development.

A 2011 scientific review highlights the link between your gut and your brain, stating that, 19 "People with gastrointestinal inflammation and autoimmune diseases brought on by chronic low-grade inflammation suffer from depression, and may actually be a neuropsychiatric manifestation of a chronic inflammatory syndrome."

Attenuating pro-inflammatory stimuli, which improve brain function, may help treat gastrointestinal inflammation and may be possible with the help of probiotics and vitamins B and D.

**Experiencing a traumatic life event** — Losing a loved one, relationship problems, financial issues, tragic accidents and other significantly painful life events can severely affect an individual, and play a role in your risk for both depression and suicide.<sup>20</sup> In one study,<sup>21</sup> undergoing a traumatic life event was the single biggest determinant of both anxiety and depression. Other factors were secondary, including family history of mental illness.

This really highlights the importance of having effective tools to address emotional distress and conflicts. One of my personal favorites is the Emotional Freedom Techniques, demonstrated below, but there are also many other ways to boost your emotional resiliency, i.e., your ability to "bounce back" from stressful events.

**Genetics** — Studies found that having low levels of brain derived neurotrophic factor (BDNF) is common among depressed individuals, which suggests BDNF may play an

important role. Further research<sup>22</sup> confirms that an alteration known as a single nucleotide polymorphism in the BDNF gene may also play a role in a person's risk for depression and anxiety.

Twenty percent of Americans are said to have this BDNF alteration, which leads to neuron shrinkage in the hippocampus, reducing the connectivity between brain cells. One of the researchers emphasized, "Just like hypertension contributes to the risk for heart disease, the BDNF alteration increases the risk of depression, anxiety and memory disorders — but is not the sole reason why they occur."

**Low vitamin D** — Vitamin D deficiency has been a well-recognized cause of seasonal affective disorder, one of the common types of depression. A 2006 study<sup>23</sup> also found that elderly people with vitamin D levels below 20 ng/ml are 11 times more likely to experience depression than those with higher vitamin D levels.

If you're struggling with depression, I strongly recommend checking your vitamin D level and address any insufficiency. Ideally, you'll want a level between 60 and 80 ng/ml year-round. The best way to optimize your vitamin D levels is through sun exposure, but if that's not possible, taking a vitamin D3 supplement may be the next best strategy.

Low omega-3 index — The animal-based omega-3 fat DHA is perhaps the single most important nutrient for optimal brain function and prevention of depression. While you can obtain DHA from krill or fish oil, it is far better to obtain it from clean, low-mercury fish such as wild Alaskan salmon, sardines, herring, anchovies and fish roe.

In addition to getting your vitamin D checked, I recommend getting an omega-3 index test to make sure you're not deficient. Ideally, you want your omega-3 index to be 8% or higher.

**Low cholesterol** — You may also want to check your cholesterol to make sure it's not too low. Low cholesterol is linked to dramatically increased rates of suicide, as well

as aggression toward others.<sup>24</sup> This increased expression of violence toward self and others may be due to the fact that low membrane cholesterol decreases the number of serotonin receptors in the brain, which are approximately 30% cholesterol by weight.

Lower serum cholesterol concentrations therefore may contribute to decreasing brain serotonin, which not only contributes to suicidal-associated depression, but prevents the suppression of aggressive behavior and violence toward self and others.

**Vitamin B deficiency** — Low dietary folate is a risk factor for severe depression, raising your risk by as much as 300%.<sup>25,26</sup> If you're using a supplement, I suggest methylfolate, as this form of folic acid is the most effective. Other B vitamin deficiencies, including B1, B2, B3, B6, B8 and B12 also have the ability to produce symptoms of neuropsychiatric disorders. Vitamin B12 deficiency, in particular, can contribute to depression and affects 1 in 4 people.

One study<sup>27,28</sup> showing the importance of vitamin deficiencies in depression involved suicidal teens. Most turned out to be deficient in cerebral folate. One of the 33 subjects was also severely deficient in CSF tetrahydrobiopterin, a critical cofactor for monoamine neurotransmitter synthesis.

According to the authors, "All patients with cerebral folate deficiency, including one with low CSF levels of 5-MTHF and tetrahydrobiopterin intermediates, showed improvement in depression symptom inventories after treatment with folinic acid; the patient with low tetrahydrobiopterin also received sapropterin ... Treatment with sapropterin, a tetrahydrobiopterin analogue, led to dramatic and long-lasting remission of depression."

A processed food diet — Three mood-wrecking culprits you'll automatically avoid when avoiding processed foods are added sugars, artificial sweeteners and processed vegetable oils — harmful fats known to cause mitochondrial dysfunction. A number of studies have linked high-sugar diets to a higher risk of depression.

In one, men consuming more than 67 grams of sugar per day were 23% more likely to develop anxiety or depression over the course of five years compared to those whose sugar consumption was less than 40 grams per day.<sup>29</sup>

Research<sup>30</sup> published in 2002, which correlated per capita consumption of sugar with prevalence of major depression in six countries, also found "a highly significant correlation between sugar consumption and the annual rate of depression." A Spanish study<sup>31</sup> published in 2011 linked depression specifically to consumption of baked goods. Those who ate the most baked goods had a 38% higher risk of depression than those who ate the least.

Similarly, a 2016 study,<sup>32</sup> summarized in the video above, found a strong link between high-sugar diets (high-glycemic foods such as processed foods, sweetened beverages and refined grains) and depression in postmenopausal women. The higher the women's dietary glycemic index, the higher their risk of depression. A diet high in whole fruit, fiber, vegetables and lactose was associated with lowered odds of depression.

High-sugar diets also promote chronic inflammation and suppress BDNF, both of which are discussed above, and adversely affects dopamine, a neurotransmitter that fuels your brain's reward system<sup>33</sup> (hence sugar's addictive potential<sup>34,35,36</sup>) and is known to play a role in mood disorders.<sup>37</sup>

Studies<sup>38,39,40,41,42</sup> have also linked artificial sweeteners to depression and compromised emotional functioning, so switching to "diet" products is highly inadvisable.

Lastly, processed foods are a significant source of genetically engineered ingredients and toxic herbicides like Roundup. In addition to being toxic and potentially carcinogenic, glyphosate, the active ingredient, has been shown to preferentially decimate beneficial gut microbes. Many grains need to dry in the field before being harvested, and to speed that process, the fields are doused with glyphosate a couple of weeks before harvest.

As a result of this practice, called desiccation, grain-based products tend to contain rather substantial amounts of glyphosate. This reason alone is enough to warrant a grain-free diet, but if you do choose to eat whole grain products, make sure it's organic to avoid glyphosate contamination.

Your beverage choices may also need an overhaul, as most people drink very little pure water, relying on sugary beverages like sodas, fruit juices, sports drinks, energy drinks and flavored water for their hydration needs. None of those alternatives will do your mental health any favors.

**Gluten and lectins** — Gluten also appears to be particularly problematic for many. If you're struggling with depression or anxiety, you'd be well-advised to experiment with a gluten-free diet.

Certain types of lectins, especially wheat germ agglutinin (WGA), are also known for their psychiatric side effects. WGA can cross your blood brain barrier<sup>43</sup> through a process called "adsorptive endocytosis," pulling other substances with it. WGA may attach to your myelin sheath<sup>44</sup> and is capable of inhibiting nerve growth factor,<sup>45</sup> which is important for the growth, maintenance and survival of certain target neurons.

Chronic EMF exposure — Another foundational strategy to prevent or treat depression and anxiety is to limit your exposure to wireless technologies and electric fields. Studies have linked excessive EMF exposure to an increased risk of both depression and suicide.<sup>46</sup> Addiction to or "high engagement" with mobile devices can also trigger depression and anxiety, according to recent research.<sup>47</sup>

Research<sup>48</sup> by Martin Pall, Ph.D., reveals a previously unknown mechanism of biological harm from microwaves emitted by cellphones and other wireless technologies, which helps explain why these technologies can have such a potent impact on your mental health.

Embedded in your cell membranes are voltage gated calcium channels (VGCCs), which are activated by microwaves. When activated, a cascade of biochemical

effects occurs that result in the creation of extremely destructive hydroxyl free radicals.

Peroxynitrite produces oxidative stress that decimates mitochondrial and nuclear DNA, their membranes and proteins. The end result is mitochondrial dysfunction, which we now know is at the heart of most chronic disease. The tissues with the highest density of VGCCs are your brain, the pacemaker in your heart and male testes.

Hence, health problems such as anxiety, depression, Alzheimer's, cardiac arrhythmias and infertility can be directly linked to excessive microwave exposure.

So, if you struggle with anxiety or depression, be sure to limit your exposure to wireless technologies. Simple measures include turning your Wi-Fi off at night, not carrying your cellphone on your body and not keeping portable phones, cellphones and other electric devices in your bedroom.

The electric wiring inside your bedroom walls is probably the most important source to address. Your best bet here is to turn off the power to your bedroom at night. This will work if there are no adjacent rooms. If there are, you may need to shut those rooms off also. The only way to know would be to measure the electric fields.

#### **To Cure Depression, Be Sure to Address Root Causes**

According to the World Health Organization, depression is now the leading cause of ill health and disability worldwide, <sup>49,50</sup> affecting an estimated 322 million people, including more than 16 million Americans. Clearly, something is horribly wrong. I'm convinced diet plays an enormous role, but as you can see, there are many other aggravating factors beyond diet.

Among them is the fact that at least 200 commonly used drugs have depression as a side effect, and that many take more than one such medication. Should you struggle with depression and are taking medication on a regular basis — be it an over-the-counter

drug or by prescription — be sure to check and see whether depression is a known side effect. If it is, quitting or swapping out that drug may be enough to get you back on an even keel.

That said, regardless of your drug use, I strongly recommend addressing your diet, paying careful attention to the specifics mentioned above — avoiding sugar, artificial sweeteners, grains, lectins and processed food in general, and making sure you're getting enough B vitamins, animal-based omega-3, healthy fats and vitamin D.

As mentioned, inflammation is a significant culprit, and a healthy diet (low in sugar, high in healthy fats with moderate protein) will go a long way toward quelling the flames of inflammation.

I firmly believe addressing EMFs is an important aspect of depression treatment as well, as is strengthening your emotional resiliency and not allowing daily stress to get out of hand. In the case of a singular traumatic event, such as the end of a marriage or the death of a loved one, seek help to work through it.

Remember, in many cases, antidepressants only worsen the situation as they're associated with an increased risk of suicide, violence and worsened mental health in the long term. So, before you resort to medication, please consider addressing the lifestyle basics first.

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