

Abdominal Obesity Linked to Anxiety and Depression

Analysis by [Dr. Joseph Mercola](#)

✓ Fact Checked

August 04, 2023

STORY AT-A-GLANCE

- › Worldwide, depression is the leading cause of ill health and disability, and anxiety is the most common mental illness in the U.S.
- › In the U.S., more than 16 million people struggle with depression and, in 2018, 1 in 4 women in their 40s and 50s are on antidepressant drugs. Up to 14% of pregnant women are also on antidepressants, despite the risk of birth defects
- › There are compelling links between a high-sugar, processed food diet and poor mental health outcomes, and studies investigating the connection between obesity and mental health add further support to the diet-depression link
- › Studies have shown women with abdominal obesity are at increased risk of anxiety and depression
- › On the whole, a diet that nourishes your gut microbiome, reduces insulin resistance and optimizes mitochondrial function — such as a cyclical ketogenic diet — is going to have a beneficial impact on both your physical and mental health

Editor's Note: This article is a reprint. It was originally published March 22, 2018.

Depression and anxiety are two leading mental health problems that have seen a dramatic rise in incidence in recent years. Worldwide, depression is now the leading cause of ill health and disability,^{1,2} with rates rising 18% in the decade between 2005 and 2015.³

In the U.S. in 2018, more than 16 million people struggle with the condition, and 1 in 4 women in their 40s and 50s are on antidepressant drugs.⁴ This, despite the fact that antidepressants have been proven to work no better than placebo.^{5,6,7,8} Eight⁹ to 14%¹⁰ of pregnant women are also on antidepressants, even though studies have linked their use during pregnancy to birth defects.¹¹

Meanwhile, data from the National Institute of Mental Health suggests the prevalence of anxiety disorders – which include generalized anxiety disorder, social anxiety and panic disorder – may be as high as 40 million in the U.S. – about 18% of the population over the age of 18 – making it the most common mental illness in the nation,^{12,13} and 800% more prevalent than all forms of cancer.¹⁴

As described by Cleveland Cavaliers forward Kevin Love, panic attacks – which are on the more severe end of the anxiety spectrum – can occur "out of nowhere" without warning.¹⁵ Love had his first panic attack during a game against the Atlanta Hawks, and has since spoken out about this particular mental health challenge to break the stigma and encourage others to seek treatment.

Abdominal Obesity Linked to Depression

Just what might account for this remarkable rise in anxiety and depression? I've previously written about the compelling links between a high-sugar, processed food diet and poor mental health outcomes, and studies investigating the connection between obesity and mental health add further support to the diet-depression link. As noted in Prevent Disease:¹⁶

"Abdominal fat distribution (as measured by waist-hip ratio) appears to be a key mediator in the relationship between obesity and depression ... Several studies have found that a disproportionate number of patients with mental illness are obese compared to the general population.

A study¹⁷ comprising randomly selected outpatients receiving psychiatric care in Maryland found that their body mass index was almost twice that of the

comparison group."

Another more recent study¹⁸ looking at body fat distribution and depression found very similar results. Postmenopausal women who had abdominal obesity were significantly more likely to struggle with depression than not (37.6% versus 27.5% respectively), leading the researchers to conclude that "visceral fat accumulation was an independent and positive factor significantly associated with the presence of depressive symptoms."

How Your Waist Size Influences Your Anxiety Risk

A third paper,^{19,20} published earlier this month, found a woman's waist-to-height ratio was associated with anxiety. This was the first time this body measurement has been linked to anxiety specifically. As a general rule, a woman is considered obese if her waist measurement is more than half of her height measurement.

Data from 5,580 Latin American women between the ages of 40 and 59 were evaluated. Overall, those with waist-to-height ratios in the middle and upper thirds were at significantly higher risk for anxiety than those with less abdominal obesity. Those with the greatest abdominal obesity were also the most likely to actually exhibit outward signs of anxiety. As reported in the featured article:²¹

"Anxiety is a concern because it is linked to heart disease, diabetes, thyroid problems, respiratory disorders and drug abuse, among other documented medical problems. Research has shown an increase in the frequency of anxiety in women during midlife, likely as a result of decreased levels of estrogen, which has a neuroprotective role.

'Hormone changes may be involved in the development of both anxiety and abdominal obesity because of their roles in the brain as well as in fat distribution. This study provides valuable insights for health care providers treating middle-aged women, because it implies that waist-to-height ratio could be a good marker for evaluating patients for anxiety,' says Dr. JoAnn Pinkerton, [North American Menopause Society] executive director."

Insulin Resistance Is a Major Factor in Mental Health

Insulin resistance is a driving factor not only in obesity but also in most chronic diseases, and based on the evidence, it's clear it plays a significant role in your mental health as well. After all, your physical and psychological health are closely linked. For example, your vagus nerve connects your gut to your brain, which is why gut dysfunction can wreak such havoc on your psychological states.

On the whole, any diet that nourishes your gut microbiome, reduces insulin resistance and optimizes mitochondrial function is going to have a beneficial impact on both your physical and mental health. A key dietary culprit that does none of those beneficial things is lowering linoleic acid reduces depression and anxiety. Among them:

- In 2011, Spanish researchers 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.²²
- A 2016 study²³ found a strong link between diets high in processed foods, sweetened beverages and refined grains, and depression in post-menopausal women. The higher a woman's dietary glycemic index, the higher her risk of depression. Meanwhile, diets high in whole fruit, fiber, vegetables and lactose were associated with lowered odds of depression.

The Importance of Healthy Dietary Fats for Brain Health

Most notably, high-sugar, processed food diets promote insulin resistance, which in turn encourages fat accumulation and Type 2 diabetes. When your body uses sugar as its primary fuel, excessive reactive oxygen species (ROS) and secondary free radicals are created, which damage cellular mitochondrial membranes and DNA.

Needless to say, as your mitochondria become dysfunctional, the cellular energy your body can produce goes down, which means your entire body will struggle to work properly, including your brain. Since your brain is a heavy energy feeder, even a small dip will result in impaired function that can translate into depressed mood.

Nondrug Solutions for Depression and Anxiety Disorders

Remember, to suggest that depression is rooted in poor diet and other lifestyle factors does not detract from the fact that it's a serious problem that needs to be addressed with compassion and nonjudgment. It simply shifts the conversation about what the most appropriate answers and remedies are. Considering the many hazards associated with antidepressants, it would be wise to address the known root causes of depression, which are primarily lifestyle-based.

Drugs, even when they do work, do not actually fix the problem. They only mask it. Antidepressants may also worsen the situation, as many are 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 your diet (above) and try out several of the lifestyle strategies listed below until you find a combination that works for you.

Limit microwave exposure from wireless technologies — Studies have linked excessive exposure to electromagnetic fields to an increased risk of both depression and suicide.²⁴ Addiction to or "high engagement" with mobile devices can also trigger depression and anxiety.²⁵ Research²⁶ by Martin Pall, Ph.D., 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 that happens, about 1 million calcium ions per second are released, which triggers a biochemical cascade that results in mitochondrial dysfunction.

Your brain, along with the pacemaker in your heart, has the highest density of VGCCs of the organs in your body, which is why Alzheimer's, autism, anxiety, depression appears to be strongly linked to excessive microwave exposure.

So, if you struggle with anxiety or depression, be sure to limit your exposure to wireless technology. Simple measures include turning your Wi-Fi off at night and, not

carrying your cell phone on your body, and not keeping portable phones, cell phones and other electric devices in your bedroom.

Get regular exercise – Studies have shown there is a strong correlation between improved mood and aerobic capacity. Exercising creates new GABA-producing neurons that help induce a natural state of calm. It also boosts your levels of serotonin, dopamine and norepinephrine, which help buffer the effects of stress.

Animal research also suggests exercise can benefit your mental health by allowing your body to eliminate kynurenine, a harmful protein associated with depression.²⁷

Spend more time outdoors – Spending time in nature has been shown to lower stress, improve mood and significantly reduce symptoms of depression.²⁸ Outdoor activities could be just about anything, from walking a nature trail to gardening, or simply taking your exercise outdoors.

Listen to nature sounds – Nature sounds have a distinct and powerful effect on your brain, lowering fight-or-flight instincts, activating your rest-and-digest autonomic nervous system,^{29,30,31} and produce brain activity associated with outward-directed focus, a trait associated with a lower risk for depression and anxiety.

Previous research has also demonstrated that listening to nature sounds help you recover faster after a stressful event. So, seek out parks, or create a natural sanctuary on your balcony, or indoors using plants and an environmental sound machine. YouTube also has a number of very long videos of natural sounds. You could simply turn it on and leave it on while you're indoors.

Practice proper breathing – The way you breathe is intricately connected to your mental state. I've previously published interviews with Patrick McKeown, a leading expert on the Buteyko Breathing Method, where he explains how breathing affects your mind, body and health.

According to Dr. Konstantin Buteyko, the founder of the method, anxiety is triggered by an imbalance between gases in your body, specifically the ratio between carbon

dioxide (CO₂) and oxygen. Your breathing affects the ratio of these gases, and by learning proper breathing techniques, you can quite literally breathe your way into a calmer state of mind.

Here's a Buteyko breathing exercise that can help quell anxiety. This sequence helps retain and gently accumulate CO₂, leading to calmer breathing and reduced anxiety. In other words, the urge to breathe will decline as you go into a more relaxed state.

- Take a small breath into your nose, a small breath out; hold your nose for five seconds in order to hold your breath, and then release to resume breathing.
- Breathe normally for 10 seconds.
- Repeat the sequence several more times: small breath in through your nose, small breath out; hold your breath for five seconds, then let go and breathe normally for 10 seconds.

Get plenty of restorative sleep — 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. Ideally, get eight hours of sleep each night, and [address factors that impede good sleep](#).

Address negative emotions — I believe it's helpful to view depression as a sign that your body and life are out of balance, rather than as a disease. It's a message telling you you've veered too far off course, and you need to regain your balance.

One of the ways to do this involves addressing negative emotions that may be trapped beneath your level of awareness. My favorite method of emotional cleansing is [Emotional Freedom Techniques \(EFT\)](#), a form of psychological acupressure.

Research shows EFT significantly increases positive emotions and decreases negative emotional states.^{32,33} It's particularly powerful for treating anxiety because it specifically targets your amygdala and hippocampus, parts of your brain that help you decide whether or not something is a threat.³⁴

For serious or complex issues, seek out a qualified health care professional that is trained in EFT³⁵ to help guide you through the process. That said, for most of you with depression symptoms, this is a technique you can learn to do effectively on your own. In the video below, EFT practitioner Julie Schiffman shows how you can use EFT to relieve symptoms of depression.

Optimize your gut health — Your mental health is closely linked to your gut health. A number of studies have confirmed gastrointestinal inflammation can play a critical role in the development of depression.³⁶ Optimizing your gut flora will also help regulate a number of neurotransmitters and mood-related hormones, including GABA and corticosterone, resulting in reduced anxiety and depression-related behavior.³⁷

To nourish your gut microbiome, be sure to eat plenty of fresh vegetables and traditionally fermented foods. Healthy choices include fermented vegetables, lassi, kefir and natto. If you do not eat fermented foods on a regular basis, taking a high-quality probiotic supplement is recommended.

Optimize your vitamin D with sensible sun exposure — 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.^{38,39,40}

In one such study, people with a vitamin D level below 20 nanograms per milliliter (ng/mL) had an 85% increased risk of depression compared to those with a level greater than 30 ng/mL.⁴¹ For optimal health, you'll want to make sure your vitamin D level is between 60 and 80 ng/mL year-round, so be sure to get a vitamin D test at least twice a year.

Optimize your omega-3 — 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 getting enough. Ideally, you want your omega-3 index to be 8% or higher.

Make sure your cholesterol levels aren't too low for optimal mental health – Low cholesterol is linked to dramatically increased rates of suicide, as well as aggression toward others.⁴² 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.

Increase your vitamin B intake – Low dietary folate is a risk factor for severe depression, raising your risk by as much as 300%.^{43,44} If 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.

Helpful supplements – A number of herbs and supplements can be used in lieu of drugs to reduce symptoms of anxiety and depression. These include:

- **St. John's Wort (*Hypericum perforatum*)** – This medicinal plant has a long historical use for depression, and is thought to work similarly to antidepressants, raising brain chemicals associated with mood such as serotonin, dopamine and noradrenaline.⁴⁵
- **S-Adenosyl methionine (SAME)** – SAME is an amino acid derivative that occurs naturally in all cells. It plays a role in many biological reactions by transferring its methyl group to DNA, proteins, phospholipids and biogenic amines. Several scientific studies indicate that SAME may be useful in the treatment of depression.

- **5-Hydroxytryptophan (5-HTP)** – 5-HTP is another natural alternative to traditional antidepressants. When your body sets about manufacturing serotonin, it first makes 5-HTP. Taking 5-HTP as a supplement may raise serotonin levels. Evidence suggests 5-HTP outperforms a placebo when it comes to alleviating depression,⁴⁶ which is more than can be said about antidepressants.
- **XingPiJieYu** – This Chinese herb, available from doctors of traditional Chinese medicine, has been found to reduce the effects of "chronic and unpredictable stress," thereby lowering your risk of depression.⁴⁷

Sources and References

- ¹ WHO March 30, 2017
- ² Fortune Magazine March 30, 2017
- ³ Reuters March 30, 2017
- ⁴ New York Times August 12, 2013
- ⁵ Z Psychol. 2014; 222(3): 128–134
- ⁶ JAMA. 2010;303(1):47-53
- ⁷ PLOS Medicine February 26, 2008
- ⁸ Science Translational Medicine January 8, 2014: 6(218):218ra5
- ⁹ Reuters September 13, 2017
- ¹⁰ New York Times September 1, 2014
- ¹¹ BMJ 2015; 351:h3190
- ¹² NIMH.NIH.gov, Anxiety Disorder Statistics
- ¹³ Anxiety and Depression Association of America
- ¹⁴ The CBHSQ Report, May 21, 2015
- ¹⁵ Time March 6, 2018
- ¹⁶ J Psychosom Res. 2009 Apr;66(4):269-75 December 16, 2008
- ¹⁷ Acta Psychiatrica Scandinavica 2006 Apr;113(4):306-13
- ¹⁸ Menopause November 2017; 24(11): 1289-1294
- ¹⁹ Menopause 018 Mar 5. doi: 10.1097/GME
- ²⁰ Medical News Today March 7, 2018
- ²¹ Science Daily March 7, 2018
- ²² Public Health Nutrition March 2012; 15(3): 424-432
- ²³ American Journal of Clinical Nutrition 2016
- ²⁴ EMFs.info, EMF and Depression Abstracts
- ²⁵ Illinois News Bureau March 2, 2016

- ²⁶ Rev Environ Health. 2015;30(2):99-116
- ²⁷ Trends Neurosci 2018 Aug;41(8):491-493
- ²⁸ Depressionalliance.org, Ecotherapy
- ²⁹ Science Daily March 30, 2017
- ³⁰ Health.com April 5, 2017
- ³¹ Time April 5, 2017
- ³² Traumatology 2012; 18(3)
- ³³ Depression Research & Treatment, 2012. doi: 10.1155/2012/257172
- ³⁴ Lissa Rankin April 15, 2013
- ³⁵ EFT Practitioner List
- ³⁶ Nat Rev Immunol. 2016 Jan; 16(1): 22–34. January 2016
- ³⁷ Proc Natl Acad Sci U S A. 2011 Sep 20;108(38):16050-5
- ³⁸ The Journal of Nutrition, Health & Aging 1999, 3(1):5-7
- ³⁹ Journal of Internal Medicine 264(6); 599-609
- ⁴⁰ Michigan State University October 7, 2014
- ⁴¹ Psychosom Med. 2014 Apr; 76(3): 190–196. April 2014
- ⁴² ISRN Psychiatry. 2012; 2012: 387901. December 23, 2012
- ⁴³ Psychother Psychosom. 2004 Nov-Dec;73(6):334-9
- ⁴⁴ Nutritionfacts.org March 30, 2017
- ⁴⁵ NIH St. John's Wort
- ⁴⁶ Orvosi Hetilap 2011 Sep 11;152(37):1477-85
- ⁴⁷ NutraIngredients Asia