The Relationship Between Caffeine and Anxiety

by LANA BARHUM

Caffeine and Anxiety: Is Caffeine Triggering Your Anxiety?

Anxiety causes intense feelings of worry and nervousness. Stimulants, such as coffee, increase your heart rate to cause further anxiety. For some of us who suffer from anxiety, caffeine can induce anxiety or panic attacks.

Caffeine is a Stimulant

Caffeine is considered a stimulant because it stimulates the body's central nervous system (CNS) and temporarily increases your metabolism. Your CNS consists of your brain and spinal cord and controls most of the functions for your mind and body.

Caffeine suppresses a brain chemical called adenosine. This chemical slows down nerve cells and causes you to become drowsy.

When caffeine enters your bloodstream, your body cannot distinguish between it and adenosine. The body will treat caffeine as it would adenosine and cause energy spikes and nerve cell responses.

Caffeine may also increase your heart rate and cause you to feel like your heart is racing. It is, therefore, possible that for some people — especially those with anxiety — drinking coffee can worsen anxiety, cause nervousness, headaches and irregular heartbeat.

According to Michigan Health Service, the effects of coffee can start as early as 15 minutes after consumption and can last for up six hours.

Research has shown that coffee can induce anxiety attacks. One 2009 study from the Federal University of Rio de Janeiro, Brazil, of people with panic and anxiety disorders found that giving caffeine to these patients in a trial-controlled situation actually induced panic and anxiety attacks.

Anxiety attacks make people feel fearful and may cause symptoms of a racing heart and shortness of breath, but those symptoms resolve once the stressor has passed. But panic attacks are not in response to a stressor and often are bad enough that they can cause people to worrying about death, losing control or having a heart attack.

Caffeine's Different Responses

Everyone responds differently when drinking caffeine. Some people are naturally more susceptible to getting nervous than others – whether they live with anxiety or not.

For example, many people drink coffee to help wake them up in the morning or for a boost of energy when they feel tired. Some people end up developing a tolerance and must drink larger amounts to get the same effect. If someone stops drinking coffee, they will experience withdrawal symptoms, which may include anxiety attacks.

In general, people with anxiety disorders should avoid caffeine. Anyone who has symptoms of nervousness, inability to sleep or a racing heart, should consult their doctor and reduce their caffeine intake.

If anxiety symptoms don’t stop after gradually reducing your coffee intake, you should consult a therapist for help.

The Link Between Caffeine and Anxiety

Research shows drinking coffee and other caffeinated beverages significantly contribute to anxiety disorders. Here is how.

1. Worsens Stress

Most people with anxiety have a lot of stress in their lives and coffee can add to that burden. Once caffeine enters the bloodstream, it mimics the effect stress has by increasing one's heart rate, blood pressure and stress hormones.

One study from Duke University Medical Center has investigated how drinking caffeine moderately has an effect on blood pressure, heart rate, urinary excretion of epinephrine, norepinephrine and cortisol. They were looking to see how it affects normal activity at home and work. What they found was that habitual coffee drinkers had increases in blood pressure and heart rate in the early part of their day. These amplifications caused higher levels of stress, as reported by the study participants, and lasted until bedtime.

2. Throws Off Neurotransmitters

Caffeine blocks adenosine and by doing so it increases dopamine and acetylcholine, which are two brain neurotransmitters that are essential for normal functioning of the central nervous system. These neurotransmitters are responsible for motivation, productivity and brain function.

Caffeine also hinders the activity of the gamma-Aminobutyric acid (GABA), a calming neurotransmitter. GABA basically calms down your brain and is needed for making you feel relaxed and happy. Low GABA levels are associated with anxiety attacks.

Serotonin is another neurotransmitter that is tied to relaxation and happiness. There has been evidence that shows caffeine can eventually suppress serotonin.

3. Affects Sleep

If you are feeling anxious and restless at bedtime, drinking caffeine during the day might be the reason. One research study out of the University of Zürich, Switzerland has found that caffeine consumption during the day affects the stages of deep, restorative sleep.

You need adequate sleep for your brain to function well and to be relaxed, and lack of sleep has been shown to induce anxiety symptoms.

According to researchers from Wayne State College of Medicine, caffeine consumed up to six hours before bedtime can affect your sleep.

4. Drinking Caffeine with Medication Increases Anxiety

We often forget that caffeine is a stimulant and doesn’t mix well with medications. In fact, caffeine doesn’t mix well many anti-anxiety medications, including Xanax and Cymbalta.

Mixing your medications with caffeine should potentially cause any of the following responses:

- Heart palpitations or heart rhythm abnormalities.

- Shortness of breath.
- Nervousness.
- Irritability.
- Insomnia.
- Anxiety and/or panic attacks.

5. Caffeine Withdrawal Exacerbates Anxiety

For some people with anxiety, quitting caffeine can make them anxious and potentially cause anxiety attacks.

Caffeine, much like substance abuse disorders, has withdrawal symptoms. These include:

- Brain fog.
- Irritability.
- Fatigue.
- Sleep problems.
- Nausea.
- Muscle aches.
- Anxious feelings.

The good news is most of the caffeine's withdrawal symptoms last no more than a few days. If you do decide to quit caffeine, you may want to do it slowly to avoid withdrawal symptoms and worsening anxiety symptoms.

Caffeine Can Worsen Other Anxiety Triggers

As you may already know, anxiety attacks are caused by triggers. These can be anything from stress to diet, to negative thoughts and so much more.

For example, while coffee is only one trigger, it can worsen the effect other triggers have. How caffeine affects you will depend on what your triggers are on a given day and how intense those triggers are.

So, if you drink two cups of coffee when you are sleeping well, eating well and feeling relaxed, chances are you won't notice any effects or have any anxiety-related episodes.

But if you have two cups on a day where you only managed five hours of sleep the night before, didn't eat breakfast, were running late for work and had a crucial deadline at work, you may experience significant levels of anxiety.

Give Green Tea a Try

Most caffeine-containing drinks (even coffee) hold little or no nutritional value. If you want something that can help you stay alert and is good for you, green tea is a better option.

Green tea contains EGCG and l-theanine. These two are very important compounds that can help you stay calm and focused.

One research study out of Kyushu University, Fukuoka, Japan, found that EGCG is just as effective for relieving anxiety as anti-anxiety medications. A second study from researchers at University of Shizuoka, Japan, have found that l-theanine increases alpha brainwave activity, which is similar to being in a state of experienced meditation.

The combined effect of the caffeine, EGCG and l-theanine work together to bring about calmness and alertness.

The Bottom Line

Caffeine is not as harmless as most of us think. There is plenty of evidence it may cause and worsen anxiety.

Caffeine worsens anxiety in several ways. It increases stress hormones, reduces your happiness and motivation transmitters, holds little nutritional value, affects your sleep and may even offset the effects your anti-anxiety medications have.

If you want an alternative to coffee, green tea can help manage anxiety symptoms and offer a more relaxing option.