What are benzodiazepines and are there natural alternatives?

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Part One

Benzodiazepines: A Dangerous Class of Drugs Commonly Used for Treating Anxiety

When a person goes to their doctor for issues they’re having with anxiety, doctors often prescribe them a class of anti-anxiety medication known as benzodiazepines (or benzos for short). The most popular benzos are Valium (diazepam), Xanax (alprazolam), Ativan (lorazepam), and Klonopin (clonazepam), though there are many more.

Benzos work through numerous pathways throughout the central nervous system. Aside from being used to treat anxiety, they are also used to treat sleep disorders, alcohol withdrawal, seizures, and as a muscle relaxant. All of the different types of benzos have similar ways of working, all acting on GABA receptors in the brain, though they affect different sub-types of GABA-A receptor. Some are also more powerful or longer lasting than others.

Why Benzodiazepines are Dangerous

While all of this may sound great for those suffering from anxiety, unfortunately this is not the whole story. Benzos have a high potential for tolerance and addiction, leading many individuals to become both physically and emotionally dependent on them. This risk goes up when taking higher dosages for the longer periods of time. Generally, benzos taken for short periods, no longer than four weeks, are safe. However, they are not always prescribed short-term.

For those suffering from anxiety, benzos are generally prescribed long-term. As people continue to take benzos, their tolerance begins to go up, causing them to require a higher dosage for the same anxiety-relieving effects. Addiction is not uncommon among those who take benzos. This is especially true when people use opioids, another highly addictive
prescription drug used to treat pain, simultaneously with benzos. Because both benzos and opioids can sedate users, suppress their breathing, and cause cognitive impairment, overdoses and accidents have become a very real danger associated with these drugs.

When benzos and opioids are prescribed simultaneously, fatal overdose becomes much more common. A reported 23 percent of individuals who died of opioid overdose in 2015 also had benzos in their system. Many hospital visits that luckily end up non-fatal happen due to the overlapping use of benzos and opioids. What’s more, those who have been prescribed both benzos and opioids end up with 15 times greater risk of death related to drugs over those who have a prescription to neither of these drugs.

Other common side effects of benzos include dizziness, drowsiness, nausea, suppression of breathing, and cognitive impairment making it hazardous to operate heavy machinery or drive. They can also cause vision impairment, forgetfulness, confusion, constipation, and sexual dysfunction. Alcohol can exasperate these effects. Benzos can also cause intense withdrawal effects when a person abruptly stops taking them, with symptoms that can be dangerous, including convulsions, insomnia, cramps, tremors, vomiting, and sweating.

Some benzo users may also experience effects opposite to the norm. Where they are meant to ease anxiety and help people sleep, they can cause anxiety instead, or lead to difficulty sleeping, irrational, strange behavior, and hallucinations.

For many of these reasons, the US government labeled benzos as scheduled IV controlled substances.

The bottom line is: benzodiazepines get rid of anxiety, but at what cost? The multitude of risks involved with taking them may not justify their use.
Understanding How Benzodiazepines Work

A benzodiazepine, whether its Xanax, Ativan, Valium, or any of the others, works by acting directly on GABA receptors in the central nervous system. Benzos boost GABA receptor function.

GABA receptors are located throughout the brain. They outnumber the rest of the brain’s neurotransmitters, with especially high concentrations in both our cortex and limbic systems. The nature of GABA receptors is inhibitive. That is, they make neurons less excitable. For this reason, they have a calming effect on the brain, thus making people feel calmer.

Not only are GABA receptors more common than the other neurotransmitters, but they are also very influential. Between 30 and 40 percent of the brain’s neurons are influenced by GABA receptors by way of their synapses. Synapses are the area where two neurons meet. GABA receptors calm down synaptic activity as well as within a neuron and between whole areas of the brain.

Benzos attach to GABA receptors to make it easier for them to enter cells, thereby giving them more opportunity to calm them down. In manipulating how GABA receptors flow throughout the brain, they reduce human anxiety and induce sleep. However, these results are only temporary.

The problem with benzos lies in how the brain reacts to them. Because benzos cause a spike in the activity of GABA receptors, the brain decreases the natural GABA pathway to try to maintain equilibrium. After several weeks of benzo use, the brain also begins to down-regulate the production of GABA receptors because it thinks it doesn’t need to produce so much of them anymore.

The result of this is that humans build a tolerance to benzos, meaning more is needed to provide the same effect. That’s because the individual starts with less GABA receptors and GABA receptor activity in the first place this time around, as the brain has reduced its functioning. Suppose the individual does not take more benzos. In that case, they will experience withdrawal nearly immediately, not to mention being more anxious than they were before having taken any benzos in the first place.

Benzos Cause Addiction

Perhaps this makes it easier to see why benzos are addictive. With the state of the brain having less GABA receptor and less GABA activity overall, the individual is more anxious than ever. This will make them feel that they need more benzos to make it go away. Unfortunately, the complexity of benzos' addictive nature also deals with dopamine, another prominent neurotransmitter in the brain.
Dopamine plays a significant role in how humans feel pleasure. Many types of benzos not only impact GABA receptor function, but they also lead to extra dopamine release, meaning we feel pleasure when taking benzos, making us want to take them again and again. The brain’s dopamine system is actually the reward center that links it so strongly to addiction. It is both the missing GABA functioning and the desire to repeat the pleasure-causing action of taking benzos primes the brain for addiction.

It gets even worse than this though. Some benzos, like Xanax and Ativan, have the special ability to cement the pathway that causes addiction, making the addiction harder to overcome. Drugs like cocaine have a similar effect.

The potency and half-life of benzos like Xanax and Ativan are the primary reasons why becoming addicted to them is so easy. It is their speed of action, the short duration of their effects, and the half-life of their effects that are the problems. When taking Xanax or Ativan, the effects come on hard and fast, don’t last very long, then leave as fast as they came. Benzos like valium last much longer and also produce products that help break them down as the effects wear off so that there isn’t such a stark comedown.

The addictiveness of benzos rivals that of opioids, which has already created an epidemic in the US, leading to tens of thousands of deaths per year. In other words, regardless of their temporary effectiveness in treating anxiety, benzos are pretty dangerous.

Alternatives to Taking Benzodiazepines for Anxiety

Turning away from addictive pharmaceutical drugs, more holistic and natural approaches to treating anxiety have been found to be effective for many people. Altering diet, exercising, and incorporating relaxation techniques like breath training and yoga are methods used to treat anxiety. Hypnosis is another technique used which some have found to be helpful.
One of the most effective alternatives to benzos for treating anxiety is cognitive-behavioral therapy. Patients work with a therapist to look into the root causes of their thoughts and feelings by discussing them openly. One specific kind of behavioral therapy consists of exposing patients little by little to their anxiety triggers with the goal that the repeated exposure will help patients overcome their anxiety once they see what they fear isn’t causing harm. Most studies have found cognitive behavioral therapy to be as effective as benzos for treating anxiety. What’s more, the effects last longer and there are no negative side effects.

Another more newly discovered alternative to taking benzos for anxiety is CBD. CBD, short for cannabidiol, is the second-most prominent compound found naturally in the cannabis plant. Unlike cannabis’ most prominent compound, THC, CBD does not have intoxicating effects. For this reason, it has become the subject of many studies over the last decade, as its legality has increased globally, for its potential health benefits. Many studies have shown CBD to have a promising role in treating a variety of anxiety disorders. CBD research is still relatively new, so more clinical studies are needed to confirm this. However, an impressive amount of anecdotal evidence has added confidence to its use. Furthermore, CBD has largely been found to have a favorable safety profile. Its most common side effects are not serious and range from mild to moderate in intensity, even when taken at high dosages.

Again, more research will be able to confirm CBD safety, but what the known data so far is extremely promising. For these reasons, many people choose to take CBD for anxiety. There are few risks, none that have been shown to be serious, and the potential for the benefit of anxiety relief.