Adderall Use in Student Populations

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High school and college students feel a lot of pressure to succeed, and some are willing to seek out illegal methods to enhance their mental performance. One such method is the misuse of cognitive enhancement drugs like Adderall.

Originally, Adderall was synthesized to treat patients with ADHD. Yet, over time, Adderall has gained popularity among college students due to its ability to allow students to study for prolonged periods of time. By taking Adderall, the user will experience four things: insomnia, impulse control, increased concentration, and a decrease in sensory overstimulation. Despite legal requirements that a prescription be obtained by anyone taking Adderall, it is often abused by students.

**Statistics**

According to an article by Krysten Alyse Pouge, one third of students will use or have tried Adderall to enhance their academic performance. Over half of those, 54 percent, get the pills via a third-party seller. There are two ways to use Adderall: It can either be swallowed in slow-release capsule form, or it can be crushed and snorted. Snorting the drug allows it to be absorbed faster than if it had to travel through the digestive tract. If the pill is swallowed, it can take hours to feel the full effect.

**Short-Term Effects on the Brain**

Adderall causes stimulatory effects by working on multiple areas of the brain. Many of the behavioral effects could be the result of activation of the limbic system in the brain. The limbic system contains the hippocampus and the amygdala. These areas control functions necessary for self-preservation, learning and memory. This system is also critical in regulating autonomic and endocrine functions such as sexual arousal, motivation and behavior. The prefrontal cortex is another brain area which is affected by an amphetamine like Adderall. This space shares dopamine pathways with the ventral tegmental area of the brain which plays a part in pleasure and addiction.

The motor changes that occur when taking Adderall may be the result of actions of the basal ganglia. The basal ganglia is responsible for repetitive behaviors, reward experiences and focusing attention. Adderall’s effect on dopamine in the brain makes it a Schedule II drug with a high potential for abuse.

**Lasting Effects and Addiction**

There is, however, promising new evidence in amphetamine genetics studies that identify a gene transcription factor called Delta FosB as a genetic marker for virtually all forms of drug addiction. If the gene is overexpressed in certain areas of the brain, it can induce an addictive state. Individuals with this genetic precursor are more likely to develop an addiction and overdose. The amount of Aderall required for a fatal dose varies from user to user, but is generally in the range of 25 milligrams (0.875 ounces) per one kilogram (2.2 ounces) of body weight. The most common consequence of an overdose is a heart attack.

Despite the evidence of Adderall’s physical, psychological and genetic influences on addiction, along with serious consequences of withdrawal and overdose, the drug retains its popularity among college students due to its reputation as an enhancer of cognitive ability. Students, under pressure to succeed, often only see the benefit of an amphetamine like Adderall and don't consider the possible long term effects on the brain and nervous system. Future research into this issue should be focused on gaining a better understanding the addiction pathways of Adderall and shedding further light on the potential health consequences of unsupervised use.