

**ADDERALL  
(DEXTROAMPHETAMINE)**

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Dextroamphetamine, marketed as Adderall and Adderall XR, is a drug primarily used to treat attention deficit disorder (ADD) and attention deficit hyperactivity disorder (ADHD). Adderall is also occasionally prescribed for Tourette's syndrome and other epileptic disorders; though this use is not approved by the food and drug administration (FDA). Recently, Adderall has become popular on college campuses and on the club scene, commonly referred to as "the homework drug". Besides the obvious ethical problems involved with abusing the drug there is the added question of how are these people getting the drug? Adderall and other amphetamines have recently come under attack as being over-prescribed which leads to abuse.

The FDA has approved the use of Adderall for persons over 2 years of age and recently for use in adults. Adderall is currently a Schedule II drug requiring prescriptions written in triplicate without refills, and dispersion is closely monitored by the drug enforcement agency (DEA). Schedule II drugs are listed as having a definite medical purpose with a high potential for abuse.

Dextroamphetamine belongs to the amphetamine class of central nervous system drugs thus sharing many of the observed effects of the other amphetamines in its class. The utilitarian use of Adderall is to diminish the symptoms of ADD and ADHD, specifically increasing concentration. A study conducted by Greenhill et al<sup>1</sup> found attention increased by 54% with the use of Adderall over placebo in children with ADHD. According to the clinical trials<sup>2</sup> done by Shire, the manufacturer of Adderall, there is a wide range of possible side effects resulting from taking Adderall. Effects

observed significantly more often than the placebo include a loss of appetite (22% vs. 2%), dizziness (2% vs. 0%), insomnia (17% vs. 2%), weight loss (4% vs. 0%), and urinary tract infections (5% vs. 0%). The Greenhill<sup>1</sup> study also found patients complaining of headaches, tiredness and blurred vision.

Adderall's formulation was originally sold under the name Obetrol and marketed as a treatment for obesity<sup>3</sup> before being renamed Adderall in 1994. Based on its original use it is understandable that the chief complaint of patients taking Adderall is severe loss of appetite. However, many patients find that the majority of their appetite returns after a few weeks of taking the medication. Exacerbation of decreased appetite and weight loss occur with an increased dose of the drug.

Insomnia is a basic side effect of amphetamine use. The stimulant qualities of the drug increase the metabolic processes to the point that people taking Adderall have difficulty calming down and returning to a relaxed state of being. Insomnia is not reported to decrease with continual use of the drug as does decreased appetite. Instead, as a person continues to use Adderall the tendency is to have increasing trouble with insomnia<sup>2</sup>. Due to this side effect Adderall is typically taken as a single dose in the morning to allow for the metabolism of the amphetamine.

In addition to the above listed side effects there is an increased risk for cardiovascular problems. A study conducted by Findling et al<sup>3</sup> found consistent increases in diastolic blood pressure and pulse rates in people taking Adderall. Blood pressure and pulse increased linearly with increasing dosages of this drug. Recently Canada pulled Adderall off their market due to several deaths related to its use<sup>4</sup>. The 8 Canadian

children who died from Adderall use were not abusing the drug and suffered from cardiac arrest.

There are currently mixed perceptions of Adderall and other related Schedule II amphetamines. It appears that the drug companies believe this drug to be safe and effective, and the FDA supports them. The general public's opinion on Adderall is divided depending on the group of people queried.. Thousands of parents across the United States believe Adderall is a "miracle drug" allowing their children to perform better both in school and at home. Many children and adolescents believe Adderall to be necessary for their academic livelihood. College and high school students using Adderall without a prescription believe it to be an ideal way to study and complete school work.

The opinions surrounding Adderall use by people not in direct contact with the drug vary drastically from the positive opinions from parents and patients of Adderall. A senior college student prescribed Adderall, Thomas Feroli, worries that Adderall has become so commonly abused on campus that "the drug carries a stigma even for those who have legitimate prescriptions for it. 'It makes people like me [Feroli] look bad, like I'm a druggie<sup>5</sup>.'" There are also a large number of parent organizations advocating for the withdrawal of Adderall and related drugs claiming they are dangerously altering their children. As would be expected the parents of the children who died from taking Adderall are not supportive of the drug and believe it to be unsafe.

As society has become more accepting of mental disorders, and in turn ADD, there has been an increase in the number of prescriptions written for Adderall. A study done in Michigan<sup>6</sup> found that over a period of 8 years amphetamine prescriptions increased 380% for children aged 2-4 and 817% for teenagers over 14 years. The same

study estimated between 7 and 10% of all school-aged children in the US are identified as ADHD. Of all amphetamine prescriptions written during the period of study 74.8% of them were for Adderall.

Along with the increased acceptance of ADD as a legitimate disorder and the drugs used to treat it came an increased number of youths abusing these drugs. A study done at the Cincinnati Children's Hospital<sup>7</sup> found calls related to Adderall abuse rose 13 fold between 1997 and 2001. Another study<sup>5</sup> found one out of every five University of Wisconsin students admit to having taken ADHD medications without a prescription. There are logical reasons why Adderall has become so popular on campuses across the United States. The wide availability of the drug makes it an easy option for students looking either for a high or for an easy A on an assignment. The immense pressure to outperform other students drives students in hoards to take Adderall to get through that next test or that next paper.

The normal behaviors seen on college and high school campuses directly influence the use of Adderall in these social groups. Students regularly procrastinate and put their assignments and studying off until the last possible moment. With the pressure to get a good grade on the test or finish the assignment students feel forced to pull all-nighters to complete the work and after staying up to party all weekend, or all week, it becomes nearly impossible to stay awake long enough to finish the assignment. Besides having difficulty staying awake students have a terrible time focusing on work they find mundane or boring. Using coffee to stay awake and alert is not always enough, so students turn to Adderall.

In addition to developing and maintaining their study habits, most students desire to do well in school. Parental and societal pressure to succeed adds increased feelings of stress to the student. Students generally agree that they need to do whatever they can to succeed in class. This acceptance, in some student's minds, extends to Adderall use. Normal activities for college students easily include using Adderall on a regular basis.

It is understandable where the use of Adderall for school related purposes originates, what is less justifiable is using Adderall for partying purposes. While less common than using Adderall for studying, it is also used for amphetamine related purposes. Some people take Adderall in an attempt to stay awake and party all night long. Amphetamines are typical party drugs and people take Adderall for the same feelings with less of the perceived risk. When taken in high enough doses Adderall can produce hallucinations, paranoia, intense confidence and seemingly endless energy.

The current regulations on Adderall theoretically make acquiring the drug difficult. Possession of an amphetamine without a prescription can result in five to forty years imprisonment<sup>8</sup> and a fine of two to five million dollars for a first offense. A second offense for amphetamine possession carries a mandatory sentence of ten years to life in prison and a five to ten million dollar fine. These sentencing guidelines and fines are applicable only after five grams of the amphetamine are found on the person. This quantity of amphetamine is equal to the amount of amphetamine found in one hundred sixty-six 30 mg Adderall capsules. Doctors are only allowed to prescribe a thirty day supply of Adderall for a patient with a few exceptions made to prescribe ninety day supplies. A typical exception allows for the writing of a ninety day supply for a student attending college out of town<sup>9</sup>. Even with a ninety day supply of the drug it would be

difficult for a student to hoard enough Adderall to sell to give another person a large enough supply to be arrested for possession.

The average student Adderall user has only a few pills on their person at one time. Perhaps there needs to be some sort of action on the part of college administration. SUNY Oneonta<sup>10</sup> currently makes no concrete statement as to the punishment for possession of the drug. Oneonta claims they will punish students based on the local, state and federal guidelines for the drug to the harshest available punishment. While this is noble it does little since most students will not possess large quantities of Adderall without a prescription to break possession guidelines. Moreover, if Adderall is seen in a student's possession by a resident advisor or other dormitory official it will likely be assumed to be legally possessed since Adderall is so commonly prescribed to college students. Besides assumed legality of the drug and lack of substantial quantities for possession charges students tend to obtain the Adderall only when they need it. Seeking the drug only when it is "needed" leads to students taking the drug almost immediately after purchasing the pill.

In order to combat Adderall abuse on campuses college officials need to take a more proactive approach to drug use prevention. Clearly communicating the penalties for possession of any quantity of Adderall without a prescription as well as the distribution of Adderall to people without a license to distribute prescription drugs may have some effect on some Adderall users. Little can be done legally to change the status of Adderall without hurting the people who actually medically benefit from the use of Adderall. Colleges can implement a policy of no tolerance for drug use and expel any student found with Adderall without a prescription. Since many students who take Adderall use it to

increase their academic capabilities they would likely not risk expulsion from college to get an A.

History of amphetamine abuse shows that people have a strong potential for disrespecting the amphetamine drugs. Adderall is a strong amphetamine with a clear potential for abuse. The rampant use of Adderall by students could lead to serious problems later in life for students who do not learn to cope with difficult situations without chemical help. If abuse becomes overly common with Adderall there is the potential it will be pulled off the market, which would hurt millions of children taking the drug as it was intended to be taken. Pills like Adderall are changing the face of the illicit drug user from someone who does not care about rules and society to a successful person who cares too much.

References:

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