

Drug Abuse in the United States in the Era of Novel Synthetic Designer Chemicals

Drug abuse prevention education today has come a long way since the 1980's "Just say no" era. People thinking about using drugs are empowered to make smart choices with more information than ever. Still, the information about why they shouldn't take drugs is still incomplete, or is not based in sound science. In 2021 it has become apparent that street drugs are more dangerous than ever. Thus, the decision to not take that first drug is imperative, and must be supported by any means possible. The following facts can be proven in sound science with public investment monies and should be known to every person thinking about taking drugs.

Drugs on the street today are more impure and dangerous than ever. Synthetic designer chemicals pressed together in an at home pill press or sold as a powder are more toxic to the brain and body than any traditional street drug in its pure form. Also, modern designer drugs pressed together outside a professional laboratory as pills or sold as a powder may moreover include toxic byproducts of production or cuts or adulterants not seen in any FDA approved formulation of traditional controlled substances dispensed at a pharmacy, which wreak havoc on the user's mind and body.

In the short term, taking a pure designer drug in a typical recreational quantity impairs cognition, sensation and perception *usually* in a reversible way, but with any repeated ingestion these cognitive deficits may become permanent by burning the brain out in ways that are not known to heal. Once the human brain breaks, there is no guarantee it will ever restore to natural and healthy, even with long term abstinence. Some modern designer drugs (novel synthetic analogues particularly) are so dangerous that *any* use of *any* amount causes persistent impairment after detox or instant irreversible brain damage upon use. Getting high with street drugs in the modern era has become more dangerous than ever for anybody buying drugs off the street. As a rule, novel designer drugs are substantially more dangerous and toxic to the brain and body than any traditional street drug, and an FDA approved formulation is always a potential users least dangerous option.

Controlled substances and analogues acts must be enforced to effectively combat drug abuse.

Impurities (cuts and adulterants) in street drugs are also often toxic. Assuming the chemical itself may be tolerated by the body in recreational quantities¹, the stuff dealers add to pump up the volume of the drug to maximize their profits may not be. It is true that most professional dealers do not want to kill their customers. Notwithstanding, street dealers are not doctors or pharmacists, and are known to cut their drugs with any substance they can pawn off as a recreational high, without regard to how much damage they cause to the brain or body of their buyers with their cuts. Cuts and adulterants that are toxic, or that cause the brain and body to degrade rapidly are common, even if the recreational drug they are added to is tolerated.

All things being equal, it is scientifically proven that one person's brain may burn out very quickly (in a year or less) from recreational cocaine while another person's brain may tolerate a decade of the same level of recreational intake before burning out. It is always an unknown variable how fast one person's brain will burn out versus another random person's, in the presence of drugs off a doctor's prescription. There is no safe recreational use of any drug, even if it's in its pure form, certainly over any length of time. In the short term, performance enhancing drugs may be useful, but with repeated ingestion (such as in daily intake of d-amphetamine or methamphetamine off a prescription or in recreational amounts) we simply do not know the breaking point of any individual's brain. There is no guarantee that once a user's brain "breaks" it will heal successfully.

It's impossible to say whether one person will be instantly hooked to recreational drugs and why another may use recreational drugs off and on with definite periods of stopping to recover and rest and restore for years on end before developing addiction or definite brain damage. Experts agree that some human brains are born with a predisposition to addiction and some brains are remarkably resilient to developing the disease of addiction. It is important to note that alcohol is a drug studied within this paradigm as are caffeine and nicotine. If you have ever taken alcohol, caffeine, or nicotine, and felt the withdrawal effect the next day (usually called a "hangover") you have experienced your brain self-correcting from actual damage.

The human brain has been studied and proven to rewire itself around damage caused by drugs, as well as to repair and restore with definite periods of stopping in between use. Opioids and opiates (such as

¹ That is, in *any* quantity

hydrocodone and heroin) are probably the easiest class of drug to become physically and psychically hooked on with one or few uses, ranging to the safest drugs being any legal over the counter formulation which are the hardest to get physically and psychically hooked on. Any time drugs are taken, you are causing changes to the way the brain functions and processes information, regardless of whether it's under a doctor's supervision and they're dispensed from a pharmacy or they're off the street. It's imperative to teach that any consciousness off natural is an impairment, particularly for performance enhancing drugs and for sedatives. It is typically the doctor's job to augment his patient's perceptions to "normal and natural" by prescribing mind- and mood-altering substances, whereas "getting high" means taking yourself off normal and natural which is always an impairment. Any off-script use of a drug of abuse causes functional impairments, both positive and negative, and regardless of how euphoric or enhanced the drug abuser becomes in the short term, this always causes reversible or irreversible brain damage and potential persistent impairments in the long term.

Abuse and habituation are serious real threats from any functional impairment, such as is found in performance enhancement with stimulants, and negative impairments, such as with a "bad hangover" from alcohol, usually spur resistance to continued use which is why alcohol is legal and amphetamine is controlled. To most users, euphoria or a general feeling of enhanced well being are the aims of their drug abuse. The euphoria, or general feeling of enhanced well being, is in and of itself an impairment, as equally as a bad hangover with its comorbid dysfunction. It is typical that people respond to the negative effects of drug abuse by resisting taking more. In the case of addiction, we find a subset of users who do not resist taking more, preferring continued ingestion. In the case of addiction, we find drug abusers who crave more to compensate for withdrawal effects instead of self-correcting (healing) with definite periods of abstinence after drug abuse.

Instead of resisting taking more, in addiction we find the drug abuser taking more out of sensing the negative impairment as a physical need for more of the substance in their body. Also in addiction, we find habituation of positive impairments such as in performance enhancement with stimulants like d-amphetamine and methamphetamine without any periods of abstinence and with ingestion of increasing amounts to achieve the same effect. The disease of addiction presents as an abnormality in the brain that can only be self-corrected with abstinence and recovery.

Experts agree that effectively treating all underlying medical conditions a person experiences is an irreplaceable cornerstone to preventing drug abuse. In the case of undiagnosed clinically severe insomnia or hypersomnolence persons are at severe risk of abusing drugs to self-correct. Both the insomniac and the hypersomnolent should see a psychiatrist. Sleep medicine, as a specialty in psychiatry is new to medicine and its long term implications for both children and adults alike is unknown to society. The instant author has studied two cases of psychiatric disturbance that are example.

In the case of “Alejandro”, a 16 year old high school student who grew up with two professional parents in an affluent household in the United States, his parents presumed he was just a sleepy growing kid and teenager who liked to sleep. He slept about 10 hours a night most of his life, sometimes taking an afternoon siesta to get through the day, and devoted the minimum to academic achievement in his adolescence and early adulthood. He saved his energies for social interactions that were not demanding, which made him feel generally well with himself. Mundane work, such as reading and physical labor, depleted him. Alejandro did not have a general sense of well being throughout the day as a result of his lifelong clinically severe daytime wakefulness impairments, which was diagnosed in his adulthood as “hypersomnolence” by a sleep expert. Alejandro experiences a form of dysphoria which is and was comorbid to the undetected condition, particularly with taxing activity.

Low energy activities are where he felt most comfortable, and as a result his school and vocational performance suffered severely, although he passed. At about 16, Alejandro self-reports he started abusing Ritalin and d-amphetamine off prescription to cope with his undiagnosed condition. Ritalin and d-amphetamine enabled Alejandro to read assignments, prepare papers, and be mentally and physically present in the classroom. His secret drug abuse quickly escalated to taking recreational quantities daily, and he required them to be effective at anything but a low energy activity like socializing, watching TV, driving a car, or rote functions of life. Alejandro was totally disabled by the time he was 16 with a crippling condition – “Hypersomnolence”.

By the time Alejandro was accepted to college, he was abusing cocaine and any traditional stimulant he could get ahold of on the street to succeed. Over a period of about 3 years, until he was about 20, Alejandro developed severe dependence which served to medicate his undiagnosed disability. While in college, Alejandro abused synthetic designer stimulants (“bath salts”) and self-reports suffering brain bleeds or a stroke as a result. Alejandro is now severely or critically disabled, and still hyper-somnolent.

He will probably rely on Social Security Benefits for his basic upkeep for the rest of his life as a result of taking street drugs off prescription for a legitimate underlying condition. As a result of Alejandro's prior history of drug abuse, Alejandro as an adult now no longer qualifies to be prescribed stimulant medication to combat his hypersomnolence which are the typical prescriptions for his condition. Had Alejandro's parents recognized his clinically severe daytime wakefulness impairments, it is hypothesis Alejandro's clinical outcome would be better in his adulthood because Alejandro would not have had to abuse street drugs to achieve a basic level of vocational and academic function while his stay at home mother resumed a 40 hour workweek. He'd have been medicated by a doctor instead.

It is presumable Alejandro can regain or improve his function with careful use of prescription stimulant medications now that he has achieved substantial clean time in recovery².

In another case known to the instant author, a mathematician had clinical need for 2.5mg of as needed Valium to augment his sensations, perceptions, and cognition to healthy. In this case, the mathematician was an adult PhD who recognized he needed help for his growing out of control substance abuse problem. The PhD mathematician was compensating for a legitimate underlying condition with his drug abuse. In treatment, the mathematician was diagnosed and successfully treated by a celebrated physician with substance dependence and issued a prescription for his unresolved generalized anxiety disorder. The mathematician did not self-diagnose as an addict. The mathematician reports today that the 2.5mg of Valium his concierge physician prescribes is more effective than any drug he ever abused in making him feel generally well, competent and balanced to manage all areas of his life. Feeling generally well when facing life on life's terms is critical, and only a trained physician (a specialist, if need be) can decide what medication is indicated for any condition. It is not uncommon that even highly intelligent persons misdiagnose and mistreat themselves in the absence of an expert opinion.

Lack of education or deficient education in the schools and prisons and institutions taking over educational therapy for persons at-risk of using drugs and those afflicted with addiction is the primary reason people use drugs in the first place. Also, getting any underlying condition diagnosed and effectively treated early or preventively is a critical tandem. In the modern era, we find continued need for prohibition of drugs to combat their availability to people not competent to diagnose and treat

² Over 5 years free from all mind changing, mood altering substances

themselves, which is a greater problem than their availability through a physician. Medical care cannot cure the disease of addiction, and medical tests cannot prove which individuals are at the highest risk of developing the disease of addiction, or necessarily who has the disease of addiction.

Experts agree that early intervention is the best intervention in combatting substance abuse and dependence. It is the instant author's opinion, that comprehensive education should start in our school's health classes, with parents in the home, and with doctor's trained in recognizing addiction. Unfortunately, not all undiagnosed problems are manifest to the layman's eye, and in the case of Alejandro, and presumably other at-risk youth, society will face new crises because teachers, and guidance counselors, like his parents, do not specialize in sleep medicine and nobody is going to spot these problems in teenagers except a trained observer.

September 2021

James A. Blatt