Use and Overuse of a “go to” drug

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Abstract

I chose to write my paper on the misuse and misdiagnosis of cognitive pharmaceutical therapies such as Adderall and Ritalin. Though I found several articles, and sources from research relating to the abuse of the drugs, based on the project constraints I was only able to scratch the surface. In addition to peer-reviewed sources, I found several College Universities that have help site for students who have one form of addiction or another, several excerpts were specifically related to Adderall and Ritilan. To this author there was nothing more informative then words directly from an abuser. Therefore, I showcased one particular insert from a college student that was seeking assistant to help her with her addiction. With further research, I was also able to draw on my current position at a family practice taking mental note of patient appointments as well as speak to the physicians that work there. Moreover, an interview was conducted with a psychologist in order to get a specific view of how those sectors of the medical professionals are able to deal with over scripting and abuse. The interview was an insightful look at how difficult it is for him to diagnose, prescribe or determine that these specific drugs are actually being misused. Of further value, is the incorporated statistical chart showing the categories of gender, age and race. The disparity becomes clear between all 3 categories. It was also interesting to see the number of off label uses that Adderall and Ritalin are prescribed for. Increased energy and weight loss are two of the most common usages and unfortunately are the most common abuses. In addition to the above, I also added a section on how to understand the need for these therapies when used responsibly, and a brief overview of what ADHD and ADD are.

The paper was written with the intent to bring to light the misuse of pharmaceuticals that were originally created to assist us with cognitive developmental deficiencies. And a further hope that those who in a position to diagnose and treat using these drugs are made aware of the misuse and abuse taking place on college campuses, in the home and on the streets

Use and Over use of a “go to” drug

"I'd take six, seven, eight pills at a time," said Jacob Stone, a high school student at Sobriety High, a drug treatment school in Minneapolis, who used to abuse Ritalin. "I'd snort them. Along the way, I knew a couple who would melt them down and shoot them up." "And the people who were most interested in it were the younger kids who weren't trying to do real drugs," Stone said. "They wanted something that seemed like it was okay to do and that still would give them a good buzz." "All the kids know about Ritalin abuse," said Dr. Robert Millman, a psychiatry professor at Cornell University-Weill Medical College in New York. "They know about other kids sharing their pills, and they know about kids snorting it.” (ABCNews.com)

In 1902, Dr. Still tagged children with noticeable hyperactivity and impulsiveness; referring to them as having a “defect of moral control.” So, approximately 50 years ago, chemists came up with a compound, which after testing on rats, proved to give them a sense of calm. In addition to the calming effect the drug had on the rodents, it was evident that they were more manageable and attentive; they named the drug Ritalin. They began treating hyperactive children, and while happy with the results, were unaware of the side effects. In 1996 a new formula compound became available to the public named Adderall. Both Ritalin and Adderall have built a reputation as a *go to* pharmaceutical for control of cognitive control, such as ADHD, despite the negative physical effects and the blatant inappropriate use by abusers.

In order to understand the need for the existence of these pharmaceutical therapies, it is important to understand the cognitive deficits they are prescribed to control. There are several areas of the brain that are affected by ADHD, Attention Deficit Hyperactivity Disorder, and ADD, Attention Deficit Disorder. (Geist) These disorders cause a learning disability seen in 6 to 10 percent of young school aged children or 1 to 5 out of every 50 classmates, though these statistics vary from one peer reviewed source to another, they are all within the rate in the previous statement. ADHD is diagnosed as the "chronic inability to pay attention along with overactive behavior and poor impulse control." There are several triggers that can generate behaviors that manifest as ADHD including a delay in growth patterns, physically and mentally, which can lead to academic failure thus causing major behavioral problems. Additionally, caffeine, poor diet, lack of outdoor activities and hours spent in front of a TV or computer cause stress triggering chronic mood swings and crankiness. Moreover, lack of environmental stimulation and a lack of parental discipline can further cognitive behavioral problems. It has been further found that chronic hunger is also a cause of misbehavior in some children caused by a lack of iron noting that there is an emerging link between iron deficiency and ADHD. ADD is much like ADHD but without the impulsivity and hyperactivity. (Mayo Clinic)

Children with ADHD exhibit the following:

- Has a short attention span, even while playing

- Has trouble with tasks that require sustained mental effort
- Has trouble learning and earns failing grades in school
- Has poor impulse control and acts physically or verbally before thinking
- Angers friends by not taking turns or playing by the rules
- Runs instead of walks, climbs in stead of sitting still, talks excessively."(Sizer & Whitney)

It is important to note that to treat the brain with cognitive deficits it needs to be treated at the neurological level. Pharmaceuticals are useful in creating a false environment for the neurotransmitters in our brain to function a bit more properly. The most commonly used drug is Ritalin, but there are at are least 20 other psychoactive drugs including Adderall, Prozac, Zoloft, and Paxil, being used to treat children as young as 2 for depression, anxiety, and many other conditions. While many are popular in the young teens and College Students, Ritalin and Adderall seem to be the most abused.

Adderall is a stimulant that is called "*Dextroamphetamine*". The functional class is a cerebral stimulant and its chemical class is amphetamine. The drug creates an action in the brain that increases the release of norephinephrine and dopamine in the cerebral cortex. It is commonly written for narcolepsy, ADHD and the unlabeled use is obesity. Unfortunately it carries side effects of hyperactivity, insomnia, restlessness, talkativeness, dizziness, headache, chills, stimulation, dysphoria, irritability, aggressiveness, tremor, dependence, and addiction as stated in the Standard Drug Guides. Ritalin is Methylphenidate, another stimulant prescribed for ADHD and like Adderall, functions as

a cerebral stimulant. Its action increases the release of norepinephrine and dopamine in the cerebral cortex to reticular activating system, like Adderall, but the exact action not known. Its uses include ADD, ADHD and narcolepsy. Ritalin also carries many negative side effects like Adderall such as hyperactivity, insomnia, restlessness, talkativeness, dizziness, drowsiness, toxic psychosis, headache, akathisia, dyskinesia, masking or worsening of Gilles de la Tourette's Syndrome and can cause seizures.

In order to further understand the use and abuses of the two cognitive therapies showcased it was important to speak to a professional, Dr. J. Benedict, PhD. Dr. Benedict encounters children and adults using these therapies in his practice, most often prescribed by someone other than himself. He is also one who must decide if the script was warranted or not. The following is the excerpt from the questionnaire used in the Interview with Dr. Benedict:

1. **What is one, or are many of the initial triggers that a child, or adult, may exhibit that may initiate prescribing of a cognitive medication?**

"For instances of overly debilitating physical activity or emotional reactivity, a child who shows the inability to gain control of the those activities when it appears he/she is trying is considered a candidate for a medication intervention. Usually boys are seen as hyperactive and bipolar as efforts to describe this "out of control" behavioral or emotional condition that does not respond to behavioral or disciplinary interventions."

2. **What determines those that may take a cognitive pharmaceutical short or long term?**

"Several issues would be considered regarding the probable length of treatment required: the duration of the symptom picture, presence or absence of an apparent or obvious trigger event, a family history of similar problems, a failure of normal parenting efforts, the age of the child, the response of the child to initial efforts to find a proper dosage."

3. **At what point is there a concern that the pharmaceutical therapy replaces coping and people skills?**

"The answer to that question is seldom easy to find, but it requires trial and error behavioral control efforts in the presence of systematically altered medication levels. One also has to make a determination of the commitment of the parents to finding a behavioral solution or the parent being unwilling to take responsibility for the solution and carry it out."

4**. How often are those that are prescribed these therapies monitored and assessed?**

"When the treatment is begun in the absence of a mental health referral, but on the initial contact being at the parent's concern, the treating physician often does not do a comprehensive or thorough /follow-up of all aspects of the treatment situation. Thus, the management of the clinical situation is often skimpy and the non-medication solutions get pushed to the back out of expediency."

5. **How is abuse thwarted or monitored?**

"Abuse of the use of pharmaceuticals in such situation is best avoided by ongoing evaluation of the broad clinical situation, including the parenting skills of the parents and their efforts to gain behavioral controls of the child with external guidance. Parents often give up their control to the prescribing practitioner, which is usually a bad indication. Usually it is best to insist on referral to a therapist to monitor the broader clinical picture." (Dr. J. Benedict)

As you can see from the aforementioned except by Dr. Benedict, there are many challenges that present themselves when determining diagnosis and use. Despite the large numbers of Psychologist and Psychotherapists that attempt to control the ADHD without the means of a pharmaceutical, the statistics are still grim and clearly show a sway to one culture class rather than reflecting widespread use.

Rates of Diagnosis and Medication for ADHD

	Percent Diagnosed with ADHD	Percent of Those Diagnosed Taking Medication for ADHD
Girls	4.7	83
Boys	14.8	73

1st and 2nd Grade	7.4	70
3rd, 4th & 5th Grade	12.2	72
Non-Hispanic White	10.8	76
Non-Hispanic Black	9.1	56
Hispanic (Berger)	4.0	53

Students are three times more likely to take Adderall than Ritalin; the drugs are popular because they increase concentration and are seen as a way to boost academic achievement. Researchers found that far more college students took the drugs to improve their schoolwork than to get high. Most ingested the pills orally, but 40 percent said they had snorted the stimulants, reported lead researcher Christian Teter, a pharmacy professor at Northeastern. (Jointogether.org) Moreover, a large number of female students, and female adults, abuse Adderall for weight loss. Reputable sources have documented the parents using their children as pawns by describing the characteristics of ADHD/ADD to the physician in order to gain access to the drugs for their own personal use. However unfortunate, it is a situation that while prevalent, cannot be substantiated by concrete statistics so documented proof.

Furthering the statistics of abuse, Medco Health Solutions has reported that the "spending on ADHD drugs has more than tripled" between 2000 and 2004. It has flooded the school systems and prescription drug black marketplace. Students consider themselves having a "leg up on everyone" not using these stimulants to get through classes. The students experience a marked increase in concentration and study time, pulling all

nighters and cramming for exams. However unfortunate, while they are able to get their work done at a more expedient rate, there is little guarantee that the work is at or above acceptable standards and it is noted that the rate of information retention is decreased. (MetroTimes)

The easy access and abuse problem is so wide spread in the school systems, and social groups, that many prominent University's have started "Dear Abby" style websites in order to offer anonymous assistance. The following is an excerpt from Columbia University's advice website:

> "Dear Alice,
>
> Recently I have started snorting Ritalin and Adderall (not at the same time though). I have found that the effects closely resemble that of snorting cocaine, but are not quite as intense. I really like doing this, because it's much cheaper than buying coke. However, I was wondering exactly how dangerous this might be, if even at all, considering it's a prescribed drug and I never snort more than the average dose that you would take orally. If you could tell me what the danger in doing this is and what I might possibly be doing to my body that would be great.
>
> Thanks,
> Adderall Addict"

The University's respondents' advice is as follows:

“Dear Adderall Addict,

Ritalin and Adderall are two of the most prevalent prescription drugs used in the treatment of Attention Deficit Hyperactivity Disorder (ADHD) and Attention Deficit Disorder (ADD). Both of these medications are classified as Schedule II drugs in the amphetamine class. Even though they are stimulants, when prescribed as directed by a medical provider in standard doses for people with ADHD and ADD, these prescription drugs assist people with ADHD to sustain their attention for a longer amount of time. This allows them to study or complete tasks at hand much more effectively minus the feelings associated with the medications' "speed-like" effects.

Schedule II drugs, such as Ritalin and Adderall, however, have a high propensity for misuse, abuse, and dependence. Widely prescribed for school-age children by medical professionals, many adolescents and young adults snort Ritalin and Adderall as they believe that they are safe alternatives to cocaine. This could not be further from the truth. First, both the potency of Ritalin and Adderall are increased when they are snorted or injected because they enter the bloodstream in a more concentrated manner compared to swallowing a pill. Second, prescription medications, especially when they are not prescribed for the user, as with illicit drugs, do not diminish their potential for harm. These actions make the misuse/abuses of these substances as or more harmful than cocaine, since the user may believe snorting Adderall and Ritalin is safe.

Dangerous side effects from inhaling Ritalin and Adderall include:

- Respiratory problems, such as destruction of the nasal and sinus cavities and lung tissue
- Irregular heartbeat (heart arrhythmia)
- Problems with circulation
- Psychotic episodes
- Increased aggression
- Toxic shock
- Death, in extreme cases

As Adderall is similar in its chemical makeup to methamphetamine, it poses additional dangers. Extended, continuous abuse can result in developmental problems concerning the brain and negative changes in brain wave activity. If someone misuses/abuses Ritalin, Adderall, or both, help is necessary to stop using, not only to prevent further harm, but also to keep the person safe during withdrawal. Once one has become addicted to these substances, stopping could cause withdrawal symptoms similar to those with cocaine, such as:

- Severe depression
- Psychosis
- Restlessness
- Extreme feelings of agitation

> You may think that you are safer and more frugal by snorting Ritalin and Adderall, rather than cocaine, but you are harming yourself in similar ways. You also run the risk of arrest for having and using these substances without a prescription. " (GoAskAlice.com)

It may seem easy to take a pill to fix the bodies inability to function properly. And while that may be true for many deficits and illnesses that we as humans encounter, not to mention the scientific communities ability to concoct a substance that corrects or mimics appropriate response, many that use Adderall and Ritalin are not without their shortcomings and negative effects. Whether the use of these drugs are from the need to replace the bodies lack of proper function, or brought on by conscientious abuses, it is part of the package to have access to therapies in order to fix that what ails us. Until there is a way for the medical and scientific community to engage the brain, or other bodily function, to self-repair, the public will have access to pharmaceuticals such as Adderall and Ritalin perpetuating the misuse, misdiagnosis, and abuses. Failure, or inability, to correct the brains malfunctions by surgery will leave us no other resolve that to rely on those that prescribe and less availability to seek some other source of treatment to help those that suffer from neurological deficiencies.

Resources:

1. http://www.jointogether.org/news/research/summaries/2006/adderall-preferred-by-college.html

2. http://www.goaskalice.columbia.edu/3703.html

3. The Developing Person, Through the Life Span: Kathleen Stassen Berger, Seventh Edition. Thinking like a Scientist: Overdosing and Under dosing

4. http://serendip.brynmawr.edu/bb/neuro/neuro02/web1/mdrejka.html

5. Nutrition, Concepts and Controversies: Frances Sizer & Ellie Whitney, 11th Edition6

6. http://www.mayoclinic.com/health/adhd/DS00275/DSECTION=tests-and-diagnosis

7. http://www.iflr.msu.edu/BookStudentPapers_files/Geist_Focusing-on-Adderall.pdf

8. http://www2.metrotimes.com/news/story.asp?id=15305

9. http://abcnews.go.com/GMA/story?id=125327&page=1

10. J G. Benedict, PhD, NAP, FACP, ABPP: Colorado Licensed Psychologist #177: Denver, CO