

Treatment of ADHD in Patients with Substance Use Disorder

Objectives

- Determine the difficulty in diagnosing ADHD in adults
- Formulate an understanding of the comorbidities associated with ADHD and SUD

ADHD Fun Facts

- 4.4 % of adults have diagnosed ADHD
- 41% of adult cases considered “severe”

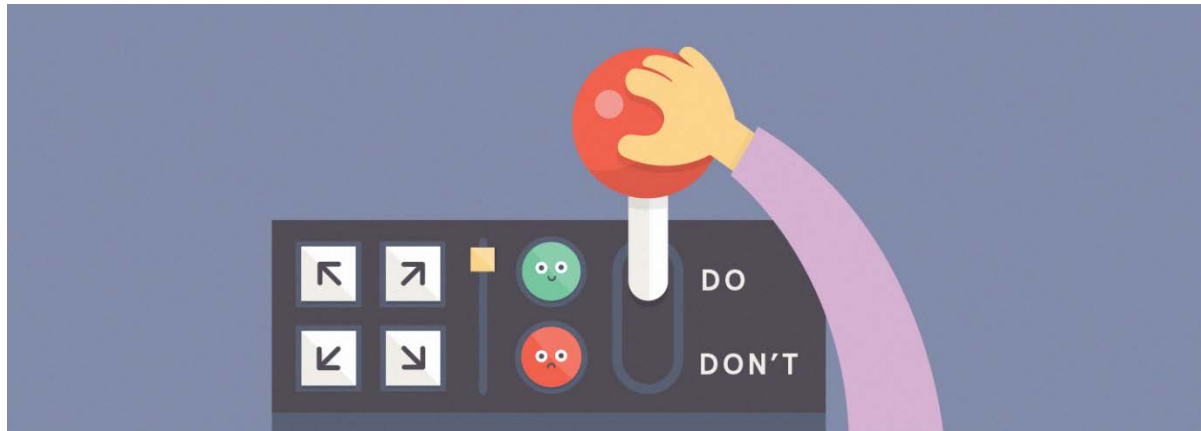
POLL

- What percent of children diagnosed continue to be affected as adults?



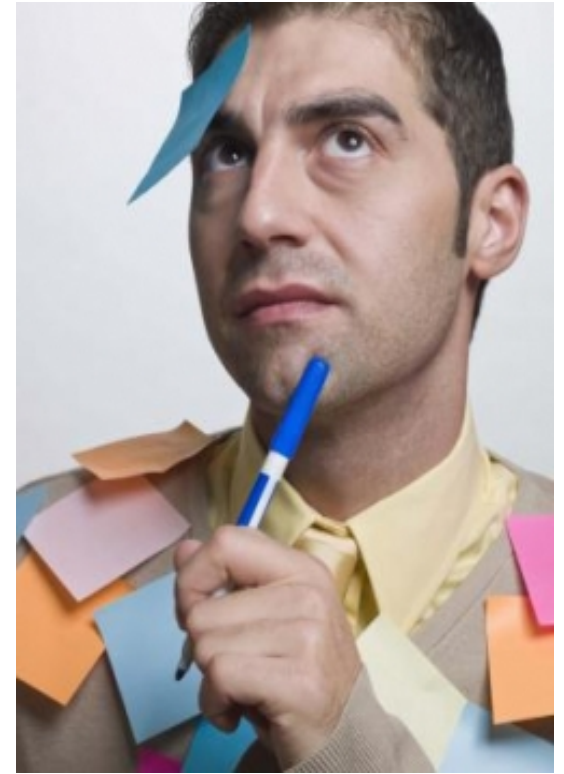
ADHD Fun Facts

- Diagnosis of ADHD can be challenging in adults because...
 - ↓ Impulsivity
 - ↓ Hyperactivity



ADHD Fun Facts

- Adults with ADHD may also be disorganized, forgetful, unreliable, poor planners, and may not complete normal tasks



ADHD Diagnosis Pitfalls

- Over Diagnosis
 - Procrastination as a criteria may be overused
 - ADHD must be linked to:
 - Significant occupational, interpersonal or psychological impairment
 - More than one setting
 - True impairment
 - Failing to confirm continuously of symptoms from childhood to adulthood

ADHD Diagnosis Pitfalls

- And at times ADHD is underdiagnosed...
 - Recall of symptoms as a child poor
 - No sources of information (parents)
 - Patients learn to adapt in socially appropriate manner
 - In cases of SUDs, symptoms are attributed to drug use

POLL

- So is there a relationship of ADHD and substance use disorder?



National Comorbidity Survey Replication

- 15.2% of adults with ADHD meet criteria for SUD
 - Only 5.6% without ADHD

Mariani JJ, Levin FR. Treatment strategies for co-occurring ADHD and substance use disorders. *Am J Addict*. 2007;16 Suppl 1(Suppl 1):45–56. doi:10.1080/10550490601082783

National Comorbidity Survey Replication

- Increase in ADHD severity correlated with increase in SUD risk

National Comorbidity Survey Replication

- Adults with SUD- 10.8% met criteria for ADHD

Mariani JJ, Levin FR. Treatment strategies for co-occurring ADHD and substance use disorders. *Am J Addict*. 2007;16 Suppl 1(Suppl 1):45–56. doi:10.1080/10550490601082783

National Epidemiologic Survey on Alcohol and Related Conditions (NESARC)

- Each additional ADHD symptom is associated with greater life time risk of SUD

Gunderson et al Study

- In >10,000 high school students 5.4% met criteria for ADHD
- ADHD students much more likely to have used illicit substances
 - LSD 8x higher
 - Cocaine 7.5x higher
 - Mushrooms 7.1x higher
 - Amphetamines 6.5x higher

Diagnosis of ADHD in Patients with SUD

Diagnosis of ADHD in substance use disorders is...

CHALLENGING



Diagnosis of ADHD in Patients with SUD

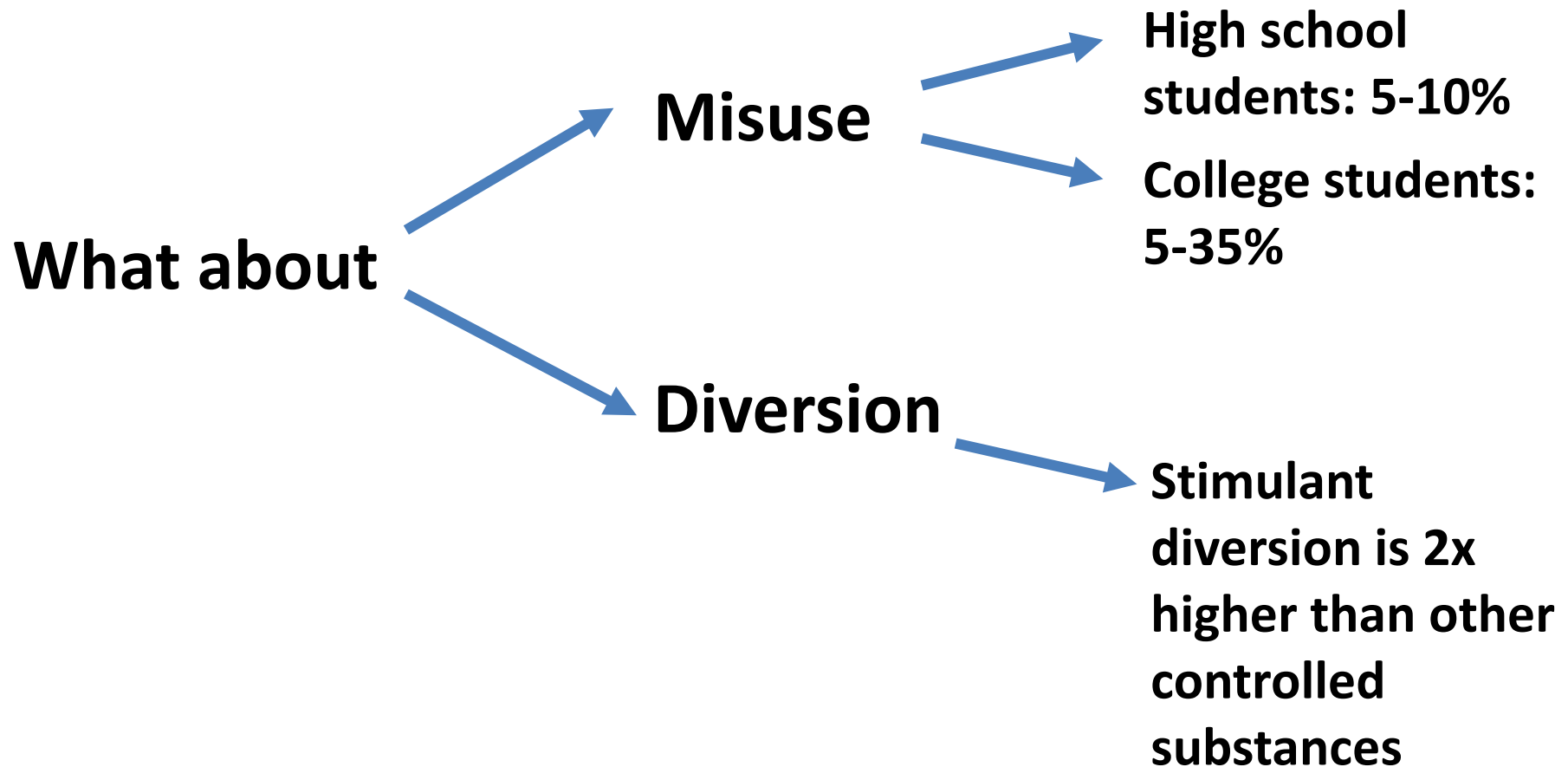
- Challenging because:
 - Substance use and withdrawal can mimic ADHD
 - ADHD symptoms are chronic and may not be obvious on presentation
 - Clinicians are relevant to treat in SUD patients and are less likely to screen patients

POLL

- Hypothesis as to why ADHD patients are more susceptible to SUDs.
- Which of these is not a possible reason?



Treatment of ADHD in SUD Patient



Treatment of ADHD in Patients with SUD

- Treatment:
 - Stimulants:
amphetamine/methylphenidate
 - Non-Stimulants: Atomoxetine,
Tricyclic Antidepressants, Bupropion,
etc.

POLL

- Which of the following is true:



Treatment of ADHD in Patients with SUD

- What is recommended for treatment of ADHD in SUD patients
 - No clinical guidelines regarding the use of stimulants in treatment of adult ADHD and SUD

TABLE 96-1

Psychopharmacological Treatment of ADHD and SUD: 14 Double-Blind Trials

	Sample Size	Drug	RX Use Results
Schubiner et al. (2002) (185)	48	Cocaine	MPH/mixed for ADHD, cocaine NEG
Riggs et al. (2004) (186)	69	Various	Pemoline/MIXED ADHD, SUD NEG
Carpentier et al. (2005) (187)	25	Various	MPH/inpatient study ADHD NEG
Levin et al. (2006) (188)	98	Methadone/Cocaine	MPH/bupropion/ADHD and cocaine, BOTH NEG
Levin et al. (2007) (182)	106	Cocaine	MPH/MIXED for ADHD and cocaine
Wilens et al. (2008) (144)	147	Alcohol	Atomox/ADHD POSITIVE: MIXED alcohol
Winhusen et al. (2010) (189)	255	Nicotine	MPH/ADH POS; MIXED smoking
Konstenius et al. (2010) (190)	24	Methamphetamine	MPH/ADHD and METHAMPHETAMINE NEG
McRae-Clark et al. (2010) (191)	38	Marijuana	Atomox/ADHD MIXED; THC NEG
Thurstone et al. (2010) (192)	70	Various	Atomox/ADHD NEG; SUD NEG
Riggs et al. (2011) (193)	303	Most marijuana	MPH/MIXED ADHD and SUD
Konstenius et al. (2014) (194)	54	Amphetamine	MPH/ADHD POSITIVE: SUD POS
Kollins et al. (2014) (195)	32	Nicotine	Lisdexamfetamine/ADHD Pos, Nicotine Neg
Levin et al. (2015) (196)	126	Cocaine	Mixed Amphetamine Salt XR/ADHD and cocaine, BOTH POS

Treatment of ADHD in Patients with SUD

- According to ASAM principles of addiction medicine:
 - 4 studies on non-stimulants:
none found medication superior to placebo in reducing substance use

Treatment of ADHD in Patients with SUD

- Most studies on stimulants show some “signal” in terms of decreasing ADHD symptoms
- But...only a minority of studies have shown some benefit of pharmacotherapy in reducing substance use, particularly if there is a “large” ADHD response to treatment

Treatment of ADHD in Patients with SUD

- Long-Term Outcomes of Pharmacologically Treated Versus Non-Treated Adults with ADHD and Substance Use Disorder: A Naturalistic Study
- Muld BB, Jokinen J, Bolte S, Hirvikoski T. Long-Term Outcomes of Pharmacologically Treated Versus Non-Treated Adults with ADHD and Substance Use Disorder: A Naturalistic Study. *Journal of Substance Abuse Treatment*. Volume 51, April 2015, Pages 82-90. <https://doi.org/10.1016/j.jsat.2014.11.005>

Treatment of ADHD in Patients with SUD

- Preferred Substance of Abuse

	Pharmacologically Treated n=30	Untreated n=30
Heroin	6 (20%)	5 (16.7%)
Amphetamines	15 (50%)	14 (46.7%)
Cocaine	1 (3.3%)	2 (6.7%)
Alcohol	2 (6.7%)	2 (6.7%)
Hashish/marijuana	3 (10%)	2 (6.7%)
GHB	2 (6.7%)	1 (3.3%)
Benzodiazepine	1 (3.3%)	1 (3.3%)
Missing data	0	3 (10%)

Treatment of ADHD in Patients with SUD

- Long-term follow up: 60 male patients with ADHD and severe comorbid SUD
 - All inpatient treatment
 - Average interval between inpatient discharge and follow-up was 18.4 months
 - 30 patients were treated for ADHD
 - 30 patients were NOT treated for ADHD

Treatment of ADHD in Patients with SUD

- Highlights

- Only half of the patients had received pharmacological treatment for ADHD.
- The mortality was high in patients with ADHD and severe SUD
- Generally more negative outcomes in the non-treated ADHD/SUD-group.
- Pharmacotherapy of ADHD may improve the long-term outcome in individuals with ADHD and SUD.

Treatment of ADHD in Patients with SUD

- Pharmacological treatment of ADHD in individuals with severe SUD may decrease the risk of relapse and increase these patients' ability to follow a non-pharmacological rehabilitation plan, thereby improving their long-term outcomes.

TABLE 96-2

Suggested Treatment Stratification for Co-occurring ADHD/SUD

Low-Risk Group (eg, 20 Years Abstinent from Alcohol, No Current Illicit Drug Use)

- Brief office intervention
- Advise of the risk of combining prescription stimulants with other substances
- Warn about diversion
- Ongoing monitoring
- ADHD response
- Use vs. nonmedical use pattern
- Use delayed absorption formulation when prescribing stimulants

Moderate-Risk Group (eg, Some Substance Use but Not Current Use Disorder; Nonmedical Use of Stimulants in Past)

- Include strategies for the low-risk group
- More frequent office visits
- Very close attention to patterns of alcohol/drug use
- Urine toxicology testing
- Use delayed absorption formulation when prescribing stimulants

High-Risk Group (eg, Active SUD)

- Include strategies for the moderate-risk group
- May try nonstimulants first
- If poor response to nonstimulant, switch to long-acting stimulant
- Require counseling, involvement with the self-help group, or referral to appropriate SUD treatment
- If severe, SUD may refer for intensive intervention prior to starting medication
- May need to avoid stimulants if they have history or current use disorder due to prescription stimulants or high risk of diversion of medication (ie, sold medication in the past)