Adolescent Substance Use

CSAM Addiction Medicine Board Review Course
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EDUCATIONAL OBJECTIVES

After attending this presentation, participants will be able to:

- Develop a treatment approach for opioid use disorders in adolescents.
- Differentiate primary mood disorders from substance-induced disorders in adolescents.
- Assess the impact of inhalant use on younger adolescents.

CONFLICT OF INTEREST DISCLOSURE

I, Mason Turner, MD have nothing to disclose, and in this presentation, I have indicated where proposed use of “off label” drugs is mentioned.

Need To Know

1. Trends in non-medical prescription opioid use in adolescents
2. Which age group uses which substances, including nicotine.
3. Effectiveness of prevention interventions
4. Risk factors which predispose to adolescent drug use
5. Hereditary versus environmental predictors of adolescent alcohol use
6. Psychiatric co-morbidities which lead to substance use disorders in adolescents, (i.e. ADHD)
7. Neurobiology of adolescent brains, especially prefrontal cortex and nucleus accumbens development
8. Substance use screening tools for adolescents
9. “Monitoring the Future” data
10. Prochaska stages of change
11. Know inhalants, club drugs very well – ED presentations, adverse effects, neurochemistry (which transmitters are affected by each drug)
12. Know effects of THC on the adolescent developing brain

Question 1

A 17 year old gender fluid person (they/them) presents with a 3 year history of daily marijuana use and a 12 month history of daily (oral) use of opioid pain medications. They have had long-standing affective instability and increasing problems with disruptive behavior including academic failures and school suspensions and are also escalating the intensity of their substance use. They have experimented with smoking fentanyl on three occasions when they couldn’t obtain prescription pills.

With reluctance, they have finally been persuaded by their parents to enter treatment and are currently in residential addiction treatment undergoing opioid withdrawal management. When discussing continuing care follow up plans with the treatment team and their family, they say they don't want to take any medicines because they know they can "stay clean on their own."

Question 1

What is the most appropriate approach to help them reach their goals?

A. Since this is their first episode of treatment, a medication-free approach to recovery is preferable, if they think they can do it and if they will go to NA meetings and counseling. You do not recommend buprenorphine but may do so if they relapse in the next 90 days.

B. Explain that the limited data to date is clearly in support of methadone in their case.

C. Avoid use of buprenorphine as it is not approved for use in patients under the age of 18.

D. Encourage them and their family to consider use of buprenorphine given their escalating use and recent initiation of fentanyl. However, do not prescribe buprenorphine without psychosocial treatment.

1. Answer D. Encourage them and their family to consider use of buprenorphine given their escalating use and recent initiation of fentanyl. However, do not prescribe buprenorphine without psychosocial treatment.

- Buprenorphine is FDA approved for use in patients age 16 and older and in this case, is an excellent treatment approach for the patient and should be offered as part of a comprehensive treatment plan. However, with a very high risk adolescent such as this one who is entering into treatment for the first time, psychosocial treatment in addition to buprenorphine is essential.

- While many patients start off by saying they want to be “clean” and may consider using opioid agonist treatment as still being “dirty,” we are moving away from these kinds of characterizations in the addiction medicine field. Using opioid agonist treatment is part of a healthy recovery and has strong evidence in support of its use. As such, option A is not the **best** answer given the strong evidence in support of buprenorphine. The option should at least be offered to the patient and their family.

1. Answer D. Encourage them and their family to consider use of buprenorphine given their escalating use and recent initiation of fentanyl. However, do not prescribe buprenorphine without psychosocial treatment.

- Methadone is not typically used in patients under the age of 18.

Reference:

Treatment Improvement Protocol (TIP) Series, No. 40., Chapter 5: Special Populations. Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration (2004).

Question 2

As part of their treatment, the patient elects to continue in a residential recovery program, but they did agree to a trial of opioid agonist treatment with buprenorphine-naloxone. One week after discharge following a 4-week admission, they present to their first outpatient appointment. They have been taking buprenorphine-naloxone 6 mg twice daily, which was started in the residential program.

They report having used oxycodone "2 or 3 times" since discharge. They find that towards the end of the day and late at night they get uncomfortable feelings of mild opioid withdrawal (sweats, chills, malaise, feeling antsy). A friend told them that they should ask to go on methadone because buprenorphine is not working.

Question 2

What is the most appropriate approach?

A. Because they have returned to use while using buprenorphine and are a very high safety risk, insist that they return to inpatient or residential treatment for withdrawal management from buprenorphine. If they refuse, call their parents in to the session to tell them.

B. Explain that residual sub-acute withdrawal is common, that it will pass with time, and discuss cravings management skills with them. Gently redirect them from med-seeking behavior.

C. Advise them to increase their buprenorphine dose to 8 mg twice daily and review the supervision arrangement for the medication with their parents.

D. Initiate methadone by referring them to a local clinic. Given their high-risk profile, the fact that they are almost 18 and their failure to experience effective treatment on buprenorphine, methadone maintenance is ethically and legally permissible.

2. Answer C. Advise them to increase their buprenorphine dose to 8 mg twice daily and review the supervision arrangement for the medication with their parents.

- Although 12mg total/day of buprenorphine can be an effective dose, some patients will require 16mg total/day. Doses above 16mg total/day are sometimes required for treatment and can be considered if the patient does not respond to the 16mg total/day dose.

- Return to use while using lower dose buprenorphine with inter-dose withdrawal symptoms is usually an indication that increasing the dose is appropriate. Note that the patient has not failed an **adequate** trial of buprenorphine, indicating that methadone is not an appropriate next step. Rather than escalate to a higher level of care, increasing the dose of buprenorphine is a good initial step.

Reference:

http://www.naabt.org/images/petscan.jpg

Question 3

The next week they report having used oxycodone only once. They report less explosiveness, less hopelessness and reduction in the level of conflict with their parents. However, they remain irritable and sullen and have "mood swings". They are resentful that their parents don't trust them and are so restrictive in insisting they wake them up in the mornings to observe them take their medication. ***What is the best approach?***

A. Explain that their mood symptoms are most likely substance induced, as they have only recently reduced their use. Continue to evaluate as their recovery progresses.
B. Recommend adding a structured regimen of psychodynamic psychotherapy for depressed mood to their addiction treatment.
C. Diagnose bipolar 2 disorder and consider use of a mood stabilizer given their new onset mood lability.
D. Refer the patient for neuropsychological testing to further elucidate their diagnosis.

3. Answer A. Explain that their mood symptoms are most likely substance induced, as they have only recently reduced their use. Continue to evaluate as their recovery progresses.

- At their age, the patient's complaints are likely due to symptoms that may be present in early recovery and will resolve with additional abstinence or reduced use. The question does not provide enough evidence that his mood lability fulfills criteria for a bipolar diagnosis (which would infrequently present at this age) but this may be atypical depression with irritability in the adolescent that has been unmasked by their reducing their use of opioids.
- Watchful waiting or addition of psychotherapy specific for mood symptoms are both potential management options at this time.
- Psychodynamic psychotherapy is not indicated this early in recovery, particularly in an adolescent, but cognitive behavioral therapy would be an option.
- Referring for neuropsychological testing at this juncture is not likely to provide additional information to help elucidate the diagnosis.

Reference: Riggs, P. Treating Adolescents for Substance Abuse and Comorbid Psychiatric Disorders. Sci Pract Perspect. 2003 Aug; 2(1): 18–29.

Question 4

Over the course of the next three months, the patient is mostly able to maintain recovery with a combination of intensive outpatient treatment and medication management in a specialized addiction treatment program. While they have not used opioids, other than buprenorphine-naloxone, for three months, they have smoked marijuana on 4 occasions over the last 12 weeks “to help calm me down and help me to sleep.” They have also started vaping nicotine “because that helps me to feel less stressed.”

With further discussion, they note that their mood has become more and more unstable, with more frequent periods of significant irritability, intermittent anxiety that is described as moderate in severity, and all phase insomnia. Additionally, they note a persistent wish to die, and one time, noted that they felt like they wanted to jump from a bridge, leading their parents to take them to the emergency department for evaluation. Their parents ask you what they should do next. They are concerned because depression runs on both sides of the family, although they deny a family history of bipolar disorder on either side.

Question 4

Other than continuing their addiction treatment with intensive outpatient treatment and opioid agonist treatment, which is the best next step in their treatment?

A. Continue to monitor their symptoms. Although they have been in recovery from opioids for three months, due to their marijuana and nicotine use, their symptoms may represent a substance-induced mood disorder that will resolve with more time.
B. Diagnose major depressive disorder with anxiety and initiate treatment with fluoxetine or escitalopram.
C. At this stage, diagnose bipolar 2 disorder and discuss initiation of an atypical anti-psychotic or mood stabilizer.
D. Do not prescribe medication but refer for assessment for individual and family psychotherapy.

4. Answer B. Diagnose major depressive disorder with anxiety and initiate treatment with fluoxetine or escitalopram.

- Although possible, a substance-induced mood disorder is less likely in this case given the increasing intensity of symptoms in the setting of relatively infrequent use of marijuana and full abstinence from opioids. Nicotine use would not lead to the clinical picture described.
- As such, a diagnosis of a mood disorder would be appropriate. Given the clinical details of the case, and the family history provided, major depressive disorder is the most likely diagnosis, although bipolar 2 disorder cannot be ruled out at this time. Depression in adolescents often presents with irritability and mood instability rather than the more typical anhedonic depression seen in adults.
- Given the increasing severity of symptoms, and in particular, the presence of suicidal ideation, a more aggressive management approach with medications (possibly in conjunction with psychotherapy) is the most appropriate answer. Fluoxetine and escitalopram are both appropriate for adolescents with a diagnosis of major depressive disorder with anxiety.

Reference: Riggs, P. Treating Adolescents for Substance Abuse and Comorbid Psychiatric Disorders. Sci Pract Perspect. 2003 Aug; 2(1): 18–29.

Question 5

A 13-year-old cis-gendered male is brought to your office by his mother for a routine annual examination. When you question the patient about substance use, the mother explains that the patient's father drinks heavily and smokes marijuana in their home, but the patient has never seemed interested. Just before you leave the examination room, the mother asks to speak with you in private. She explains that she found a dirty rag in her son's room and asks for information about inhalant use. ***Which one of the following would be accurate advice?***

A. Children who misuse inhalants are more likely to use other illicit drugs
B. A urine drug test can be used to detect many forms of inhalants.
C. Physical examination typically demonstrates whether or not a patient is using inhalants.
D. The mean age of first-time inhalant use is 15 years of age

5. Answer A. Children who abuse inhalants are more likely to use other illicit drugs.

- National surveys indicate that nearly 21.7 million Americans aged 12 and older have used inhalants at least once in their lives. NIDA's Monitoring the Future (MTF) survey reveals that 13.1 percent of 8th-graders have used inhalants.

- Inhalants are undetectable on urine toxicology. The symptoms of inhalant use are not obvious. Occasionally from huffing there may be erythema around the lips and chin, but often nothing is obvious. The mean age of first time inhalant use is around 13 years old or 8th grade.

NIDA Website: https://www.drugabuse.gov/publications/research-reports/inhalants/what-scope-inhalant-abuse

Question 6

The patient returns approximately two years later for a routine physical examination, and his mother notes that in addition to use of e-cigarettes, she found a glass pipe with a strongly smelling residue consistent with cannabis. You speak with the patient and his family to learn more about the patient. His mother notes that she is very surprised that her son is using marijuana, noting “I just feel like I don’t know my son anymore.”

She describes him as being friendly and outgoing and is a natural leader because he is assertive and able to speak his mind easily. She mentions that the school has called her with complaints about his not being in class when he should be and noting that he faces suspension if he does not improve his grades.

Question 6 (cont.)

When you speak with the patient, he tells you that he recently quit sports in order to hang out at the beach after school. “I hate school, and I just don’t want to be there.” He also notes that his mother is almost never home and spends a lot of time with her friends. “And my dad is always too drunk and high to even know I’m there half the time.” He has no siblings and spends most of his time playing video games in his room.

You ask the patient if he has any questions about drugs and alcohol, and he notes, “Dude, I go to this uber religious school that thinks no one uses drugs or ever has sex. I know nothing about drugs except that weed makes me feel amazing.”

At the end of the meeting, the patient’s mother asks if you are worried about his drug use getting worse.

Question 6 (cont.)

Based on this clinical encounter, which of the patient's characteristics is least consistent with further escalation of his drug use?

A. Feeling disconnected from his family and playing video games in his room.
B. His attendance at a religious school that does not teach about substances.
C. The fact that he is a natural leader who is very assertive in social situations.
D. His recent cessation of sports at school.

6. Answer C. The fact that he is a natural leader who is very assertive in social situations.

- At an individual level, low assertiveness, poor self esteem and poor behavioral self control are all risk factors that may contribute to the risk of escalation among adolescents.
- Additionally, feeling disconnected from family, reduced participation in school and lack of knowledge about the risks of substance use all predict further escalation.

Principles of Addiction Medicine 5th Edition 2014. Richard K Ries.

Question 7

Regarding primary prevention of substance use and substance use disorders in adolescents, which of the following is FALSE?

A. Project D.A.R.E. has proven effective as a primary prevention strategy.
B. Primary prevention strategies for adults should start in the adolescent population given the fact that most adults who later develop an SUD initiate substance use in adolescence.
C. Bonding to conventional institutions such as schools or churches provides a powerful protective factor and lack of such bonding a powerful risk factor.
D. Social resistance training and skills development, such as the ability to resist “peer pressure,” is an effective protective factor.

7. Answer A. Project D.A.R.E. has proven effective as a primary prevention strategy.

- The below referenced study examined the impact of Project DARE (Drug Abuse Resistance Education), a widespread drug-prevention program, 10 years after administration. Project DARE philosophy centers on five core values: responsibility, effort, attitude, community and honor. And focuses on four main components: wilderness expedition, challenge activities, community service and school.
- A total of 1,002 individuals who in 6th grade had either received DARE or a standard drug-education curriculum, were re-evaluated at age 20. Few differences were found between the 2 groups in terms of actual drug use, drug attitudes, or self-esteem, and in no case did the DARE group have a more successful outcome than the comparison group.

References

Lynam DR, Milich R, Zimmerman R, Novak SP, Logan TK, Martin C, Leukefeld C, Clayton R (1999) Project DARE: no effects at 10-year follow-up. J Consult Clin Psychol. Aug;67(4):590-3.

Griffin KW and Botvin GJ (2010) Evidence-Based Interventions for Preventing Substance Use Disorders in Adolescents Child Adolesc Psychiatr Clin N Am. 2010 Jul; 19(3): 505–526.

7. Answer A. Project D.A.R.E. has proven effective as a primary prevention strategy.

Since the vast majority of adults who later develop substance use disorders initiate use in adolescence, primary prevention programs for SUD's in general must begin in adolescence to have a meaningful impact.

Bonding to conventional institutions and strong relationships with adult figures in those institutions (teachers, etc.) are strong protective factors for not initiating substance use.

Social resistance training to teach adolescents how to resist pressure from peers to use substances is an evidence-based prevention strategy that is important in general skills training for teens.

References

Lynam DR, Milich R, Zimmerman R, Novak SP, Logan TK, Martin C, Leukefeld C, Clayton R (1999) Project DARE: no effects at 10-year follow-up. J Consult Clin Psychol. Aug;67(4):590-3.

Griffin KW and Botvin GJ (2010) Evidence-Based Interventions for Preventing Substance Use Disorders in Adolescents Child Adolesc Psychiatr Clin N Am. 2010 Jul; 19(3): 505–526.

Special Topics

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August 24, 2022

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EDUCATIONAL OBJECTIVES

After attending this presentation, participants will be able to:

- Diagnose and describe an evidence-based treatment plan for internet gaming disorders
- Outline the unique issues in diagnosing and treating gambling disorders in women.
- Differentiate the risks of patients who identify as LGBT versus those who identify as heterosexual.

Question 1

An occupational therapist is seeing a patient with tenosynovitis, and as the addiction medicine specialist on call, he consults with you about a 43 year old male who admits to playing video games up to 20 hours per day, causing a repetitive use injury. ***Which of the following is not one of the proposed DSM5 criteria for Internet Gaming Disorder?***

A. Withdrawal symptoms when gaming is taken away or not possible. May include sadness, anxiety, irritability or other symptoms.
B. The use of gaming to relieve negative moods, such as guilt or hopelessness
C. The person experiences euphoria when gaming.
D. Deceiving family members or others about the amount of time spent on gaming

1. Answer C. The person experiences euphoria when gaming.

- The DSM5 identifies Internet Gaming Disorder as an area requiring further study. Criteria mirror those for substance use disorders, including tolerance/withdrawal; loss of control; use despite negative consequences; and functional impairment.

- Experiencing euphoria is not a diagnostic criterion. As with substance use disorders, internet gaming must cause significant distress to be diagnosed as a disorder

https://www.psychiatry.org/patients-families/internet-gaming

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Question 2

After completing an evaluation, you diagnose an unspecified mood disorder (major depressive disorder versus bipolar disorder) and a likely internet gaming disorder (IGD) and discuss treatment options. **Which of the following is the least appropriate initial treatment intervention based on the limited evidence available?**

A. Initiate treatment of both the unspecified mood and internet gaming disorders with bupropion.
B. Initiate aggressive medical treatment of the patient's mood disorder and do not refer for specialized addictions treatment as the mood disorder is likely the primary issue, and there are no centers that specialize in treatment of IGD in your area.
C. Evaluate for a gambling disorder and treat if appropriate.
D. Recommend psychosocial interventions, including cognitive-behavioral therapy.

2. Answer B. Initiate aggressive medical treatment of the patient's mood disorder and do not refer for specialized addictions treatment as the mood disorder is likely the primary issue, and there are no centers that specialize in treatment of IGD in your area.

- Although the evidence for treatment of internet gaming disorder is limited , some open label trials have been published that demonstrate the efficacy of bupropion, particularly with co-morbid depression, in reducing overall gaming time, improving functional outcomes and reducing video cue-induced brain activity in the dorsolateral pre-frontal cortex. Given the ongoing potential for a bipolar disorder diagnosis, bupropion is an attractive option as the rate of switch to mania is much lower than other antidepressants. Note that the use of bupropion in this case is not approved by the FDA and is "off-label."
- Several well-designed studies have demonstrated efficacy of 8+ sessions of cognitive behavioral therapy, particularly with a co-morbid mood disorder.

Miller et al. Principles of Addiction Medicine. Sixth Edition (2019). Pages 658-661

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6930980/

2. Answer B. Initiate aggressive medical treatment of the patient's mood disorder and do not refer for specialized addictions treatment as the mood disorder is likely the primary issue, and there are no centers that specialize in treatment of IGD in your area.

- Internet gaming and gambling disorders are frequently co-morbid, and both can be treated simultaneously. Some evidence exists for use of naltrexone in treatment of IGD and much more evidence exists for its use in gambling disorder, although both treatments are "off-label." As such, naltrexone may be a good option for co-morbid IGD and gambling disorders.

- As with other addictions, treating just the psychiatric symptoms may improve some functional outcomes related to the mood disorder, but not to the addiction itself. Concomitant treatment, ideally in a single treatment program, will likely produce the best functional outcomes in total.

Miller et al. Principles of Addiction Medicine. Sixth Edition (2019). Pages 658-661

Wang Q, Ren H, Long J, Liu Y, Liu T. Research progress and debates on gaming disorder. Gen Psychiatr. 2019 Jul 18;32(3):e100071. doi: 10.1136/gpsych-2019-100071. PMID: 31423477; PMCID: PMC6678059.

Question 3

In the course of treating a 58 year old woman for an alcohol use disorder, she presents for a routine three month follow-up noting that she has been experiencing increasing financial distress and that her house is under foreclosure.

You are quite surprised to hear of this development as she was doing well when you last saw her. Also, you believe her to be a very well paid executive at a large healthcare company and did not expect she would present with financial stressors. As she is leaving, she breaks into tears and tells you that she is worried she has a gambling disorder.

Question 3

Upon further questioning, the patient notes that she started gambling about three months ago and has been spending more and more money every time she goes to the casino. She tried to limit her trips to just Saturdays or Sundays, but she noted increasing irritability that was relieved immediately when she went through the door of the casino.

She found herself driving five hours round trip during the weekdays to gamble, missing important meetings and falling behind on her work duties. To date, she has been able to conceal her losses from her husband, noting “sometimes, I go back to the casino the day after a big loss and recoup a lot of my money. But it doesn’t happen every day.” She is amassing a large amount of debt and is worried how long she can keep this from her husband.

Question 3

Which of the following characteristics of gambling disorder in women is ***false*** compared to men?

A. Women progress to pathologic gambling more slowly than men
B. Women have higher rates of "non-strategic" gambling than "strategic" gambling than men
C. Most women with gambling disorder are married
D. The prevalence of gambling disorder is lower in women as compared to men

3. Answer A. Women progress to pathologic gambling more slowly than men

- Women, who constitute approximately 32% of disordered gamblers in the United States, seem to progress ***more quickly*** than do men, a phenomenon known as **"telescoping."** The lifetime prevalence is about 0.2% for females and 0.6% for males.
- The other answers represent typical characteristics of gambling disorders in women.

Sources: The ASAM Essentials of Addiction Medicine/[edited by] Abigail J. Herron, Timothy Koehler Brennan, Second Edition 2015. Diagnostic and Statistical Manual of Mental Disorder (DSM-5)-Fifth Edition. Arlington, VA. American Psychiatric Association, 2013.

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Question 4

In this patient with co-morbid gambling disorder and alcohol use disorder, which of the following treatment options is **not** recommended as initial therapy:

A. Use of an opioid antagonist such as naltrexone.
B. Use of the atypical antidepressant bupropion
C. Cognitive behavioral therapy
D. Brief motivational enhancement therapy

4. Answer B. Use of the atypical anti-depressant bupropion

- An evidence base exists for the use of cognitive behavioral therapy and brief motivational enhancement in the initial phases of treatment. Of note, insight-oriented psychotherapy should not be used for gambling disorder until later in the course of treatment.
- Naltrexone is one of the only pharmacological options available for gambling disorder and may also be of assistance in treating the patient's alcohol use disorder. However, note that this is because research to date has focused on naltrexone for gambling disorder and bupropion for internet gaming disorder. Future evidence may demonstrate efficacy for use of both in both disorders at a later time, but the current evidence does not support use of bupropion for gambling disorder.
- Programs like Gambler's Anonymous can be very useful for treatment.
- To date, there is not enough evidence to recommend bupropion as a first line treatment.

Source: Kaplan and Sadock's Synopsis of Psychiatry: behavioral sciences/clinical psychiatry; 11th edition; 2015

Question 5

Which of the following is *not* included in the DSM-5 Diagnostic Criteria of Gambling Disorder?

A. It is included under the category of Non-Substance Related Disorders
B. The individual should exhibit at least two of the nine criteria for a 12-month period
C. After losing money gambling, patient often returns another day to get even ("chasing" one's losses)
D. The gambling behavior is not better explained by a manic episode

5. Answer B. The individual should exhibit at least two of the nine criteria for a 12-month period

Unlike criterion A of other SUDs, which require at least two criteria occurring within a 12-month period, gambling disorder **requires four (or more)** of these criteria during the same duration:

- Need to gamble with increasing amount of money to achieve the desired excitement (tolerance)
- Restless or irritable when trying to cut down or stop gambling (withdrawal)
- Repeated unsuccessful efforts to control, cut back on or stop gambling
- Frequent thoughts about gambling (such as reliving past gambling experiences, planning the next gambling venture, thinking of ways to get money to gamble)
- Often gambling when feeling distressed
- After losing money gambling, often returning to get even (referred to as “chasing” one’s losses)
- Lying to conceal gambling activity
- Jeopardizing or losing a significant relationship, job or educational/career opportunity because of gambling
- Relying on others to help with money problems caused by gambling

Source: Diagnostic and Statistical Manual of Mental Disorder (DSM-5)-Fifth Edition. Arlington, VA. American Psychiatric Association. 2013.

Question 6

Which of the following can mimic a gambling use disorder?

A. Treatment of a seizure disorder in a 27-year-old male patient with gabapentin
B. Treatment of multiple sclerosis in a 42-year-old female patient with β-interferon
C. Treatment of attention-deficit hyperactivity disorder in an 18 year old with dextroamphetamine-amphetamine (Adderall)
D. Treatment of Parkinson's disease in a 56-year-old male patient with dopamine agonists

6. Answer D. Treatment of Parkinson's disease in a 56-year-old male patient with dopamine agonists

- Patients taking dopaminergic medication for Parkinson's disease may experience urges to gamble. If such symptoms dissipate when the medication dose is reduced or stopped, diagnosis of gambling disorder would not be indicated.

- Although psychostimulant medication increases dopamine levels as well, it has not been classically associated with increased gambling. The other options are not known to affect gambling behavior.

Source: Diagnostic and Statistical Manual of Mental Disorder (DSM-5)-Fifth Edition. Arlington, VA. American Psychiatric Association, 2013.

Question 7

Regarding addictive disease in the LGBTQI population, which of the following is false ?

A. Rates of both tobacco and e-cigarette use are greater among LGB patients than matched heterosexual counterparts.

B. Sexual minorities with SUDs are more likely to have additional co-occurring psychiatric disorders.

C. Recent research demonstrates that trans-women are at higher risk of overall illicit substance use than trans-men.

D. LGBTQI individuals, especially trans youth, are at a much higher risk of death by suicide than matched heterosexual and cis-gendered counterparts.

7. Answer C. Recent research demonstrates that trans-women are at higher risk of overall illicit substance use than trans-men.

Although expanding, the evidence base for treatment of addictions in the LGBTQI population is sparse. However, based on prevailing data, the following is known:

- LGBTQI individuals are at a much higher risk of suicidal ideation and death by suicide than matched heterosexual and cis-gendered counterparts, largely due to minority stress, trauma and internal/external stigmatization.
- Co-occurring disorders occur at a higher rate among LGB and other sexual minorities.
- Rates of tobacco and e-cigarette use are higher among LGB individuals.

Source: Ruppert R

7. Answer C. Recent research demonstrates that trans-women are at higher risk of overall illicit substance use than trans-men.

- Data regarding rates of addiction among transgender and gender non-conforming patients is mixed, but evidence generally supports that trans persons generally have lower rates of addiction compared to both their LGB and cis-gender counterparts. One exception may be methamphetamine and possibly, alcohol, use, where trans-women, especially those who are HIV positive, report more use than matched counterparts. However, general illicit drug use rates are higher in trans-men than trans-women.

Sources:

Ruppert R, Kattari S, Sussman S. Review: Prevalence of Addictions among Transgender and Gender Diverse Subgroups. *Int J Environ Res Public Health.* 2021 Aug; 18(16): 8843.

Substance Use and SUDs in LGBTQ* Populations. National Institute on Drug Abuse. https://nida.nih.gov/research-topics/substance-use-suds-in-lgbtq-populations