Chapter e84: Introduction to Substance Use Disorders

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KEY CONCEPTS

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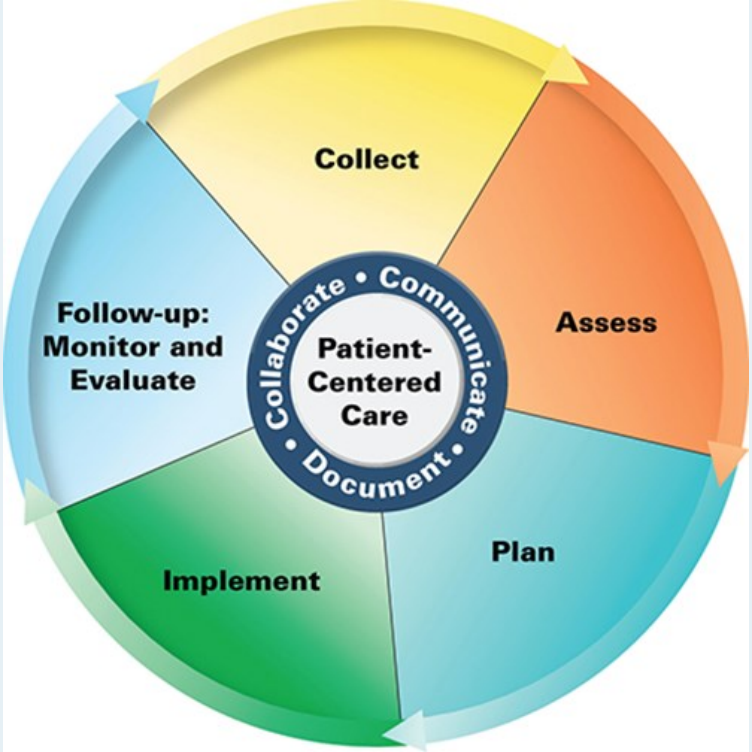
1. Substance use disorders (SUDs), including those pertaining to prescription medications, affect the health and well-being of millions of Americans.
2. Patients with SUDs are treated in all healthcare settings.
3. The use of prescription medications other than as prescribed, alone is estimated to cost more than 750 billion dollars annually.
4. There are several national efforts ongoing to monitor substance use trends in adults and children.
5. The etiology for SUDs is unknown, as there is no way to predict why some individuals exposed to substances develop a SUD, while others may not. It is felt that SUDs occur when some patients with genetic, psychological, and environmental risk factors are exposed to certain substances.
6. The *DSM-5* has established nine types of substance-related disorders including alcohol, cannabis, hallucinogens, inhalants, opioids, sedatives/hypnotics/anxiolytics, stimulants (ie, cocaine, amphetamine substances), tobacco, and caffeine.
7. The diagnosis of SUD is based on a set of behaviors related to that substance which fall into four categories including impaired control, social impairment, risky use, and pharmacological indicators.
8. The current *DSM-5* stratifies substance-related disorders into two groups: SUDs and substance-induced disorders (eg, intoxication, withdrawal, or medication-induced mental issues).[1]
9. The American Society of Addiction Medicine (ASAM) has endorsed recommendations of the Descriptive and Diagnostic Terminology Action Group (DDTAG) to clarify SUD-related terms.
10. Validated scales and screening tools provide objective measures of SUDs and are often used in research and clinical settings.
11. Treatment of SUDs focuses on a holistic biopsychosocial approach, to provide a recovery that allows the patient to live a full life as they manage symptoms and decrease risk of relapse.
12. Terminology surrounding SUDs is evolving. All healthcare providers should strive to use terms and language that are patient-oriented, medically precise, and without stigma.

PATIENT CARE PROCESS

Patient Care Process



Applying the Pharmacists' Patient Care Process to Patients with Substance Use Disorder (SUD)

This image shows The Pharmacist's Care Process endorsed by the Joint Commission for Pharmacy Practitioners (2014). The five fundamental steps are to collect, assess, plan, implement, and follow-up.

This process outlines a comprehensive approach for pharmacists providing patient care services.

Collect

Objective data

- Patient demographics (eg, age, sex, race/ethnicity, pregnancy status)
- Blood pressure (BP), heart rate (HR), respiratory rate (RR), height, weight
- Prescription drug monitoring program (PDMP) data
- Laboratory tests (eg, urine, blood, hair, or oral fluid drug testing, pregnancy test, liver function tests [LFTs], serum creatinine [SCr], screening for tuberculosis, hepatitis B and C serology, human immunodeficiency virus [HIV] serology)

Medication history

- Current medications (eg, herbal products, dietary supplements, over-the-counter [OTC] medications, and prescription medications)
- Known medication allergies or intolerances

Past medical/psychiatric history

- Past or current co-occurring illnesses (physical and psychiatric), injuries, surgeries, and hospitalizations

- General state of current physical and mental health (eg, good, fair, poor, concern for suicidal ideation)
- Substance use history (eg, tobacco, ethanol, prescription medications taken other than as prescribed, cannabis, heroin/fentanyl, cocaine/crack, methamphetamine, hallucinogens, inhalants)
- Problems resulting from substance use
- Childhood or adolescent abuse (emotional, sexual, physical, verbal)

Social and environmental history

- Living environment and transportation resources
- Education level completed and current employment status
- Current support systems (eg, family, friends, group therapy)
- Family history of SUD (eg, parents, siblings, partners)
- Participation in high-risk activities for contracting HIV or other sexually transmitted infections (STIs)

Assess

Signs and risk factors for SUD

- Dental caries, perforated septum, skin abscesses, needle track marks, swollen extremities
- Withdrawal symptoms
    - Tobacco (irritability, anxiety, difficulty concentrating, increased appetite, restlessness, depressed mood, insomnia)
    - Opioids (Goose bumps, nausea/vomiting/diarrhea, abdominal cramps, tearing, runny nose, yawning, restlessness, bone/joint/muscle aches, diaphoresis, tachycardia, anxiety)
    - Alcohol/sedative hypnotics (tremor, anxiety, agitation, headache, nausea, diaphoresis, pulse greater than 100 bpm, sensory disturbances [auditory, tactile, visual], seizures)
    - Stimulants (dysphoric mood, fatigue, vivid unpleasant dreams, insomnia or hypersomnia, increased appetite, psychomotor slowing/agitation)
    - Cannabis (irritability/aggression, anxiety, restlessness, sleep disruption, reduced appetite, depressed mood, abdominal pain, tremors, sweating, fever, chills, headache)
- Symptoms of intoxication
    - Opioids (euphoria, apathy, psychomotor slowing/agitation, impaired judgment, pupillary constriction, drowsiness, slurred speech, impaired attention/memory)
    - Alcohol (slurred speech, incoordination, unsteady gait, impaired attention/memory, mood lability, impaired judgment)
    - Stimulants (euphoria, hypervigilance, interpersonal sensitivity, anxiety, tension/anger, stereotypic movements, impaired judgment, pupillary dilation, autonomic instability (tachycardia or bradycardia, elevated or lowered BP, diaphoresis or chills), nausea/vomiting, psychomotor agitation, seizures, dyskinesias, dystonias)
    - Cannabis (incoordination, euphoria, anxiety, sensation of slowed time, impaired judgment, social withdrawal, increased appetite, dry mouth, tachycardia)

- Hallucinogens (impaired judgment, paranoia, ideas of reference, depersonalization, derealization, hallucinations, synesthesia, pupillary dilation, tachycardia, diaphoresis, palpitations, blurred vision, tremors, incoordination)

- Psychiatric and Behavioral
  - Depression, anxiety, low self-worth, mental health disorders, feelings of hopelessness or loss of control, resentment
  - Conduct disorders, impulsivity, alienation from others, involvement with the criminal legal system
- Risk stratification
  - Assess patients for substance use, and SUD.
  - Screening tools and symptom surveys may aid in determining SUD risk (eg, Pain Medication Questionnaire, Opioid Risk Tool, Current Opioid Misuse Measure), opioid withdrawal (eg, Clinical Opioid Withdrawal Scale, Objective Opioid Withdrawal Scale), alcohol use disorder (alcohol use disorder identification test), and respiratory depression (Risk Index for Overdose or Serious Opioid-Induced Respiratory Depression)
- Evaluate patient readiness for recovery using motivational interviewing
  - Highlight consequences that may motivate positive change
  - Identify patients' reasons to start treatment (relationships, quality of life, self)
  - Determine the patients' preferred treatment setting (eg, opioid treatment programs, outpatient office visits with a prescriber)
  - Discuss potential barriers for patient access to treatment for SUD, mental health support, and laboratory tests for monitoring

Plan

- Engage the patient in shared decision making regarding the risks and benefits of each treatment
- Design a medication therapy regimen if applicable (eg, specific medication(s), dose, route, frequency, and anticipated duration of therapy)
- Communicate monitoring parameters including efficacy (eg, cravings, use, and withdrawal symptoms) and safety (eg, drug interactions, side effects); frequency and timing of follow-up
- Educate patients about their diagnosis, medication, and expectations (eg, purpose of treatment, possible side effects, importance of proper storage of medication, naloxone education if applicable, risk of overdose with discontinuation of treatment and return to use, notify other providers they are on a new medication)
- Refer patient to other providers when appropriate (eg, behavioral health specialist, social worker)

Implement

- Review all elements of treatment plan with the patient and their support system (friends, family, significant others)
- Continue to engage the patient with motivational interviewing, establish patient centered goals and identify healthy coping strategies
- Provide home naloxone device and complete proper education with patient and their support system
- Schedule patient follow-up visit

Follow-Up: Monitor and Evaluate

- Reevaluate medication therapy for safety (ie, adverse medication effects) and effectiveness (eg, effects on cravings and ongoing substance use) daily to weekly until stable

- Labs/tests: liver function tests, serum creatinine, drug testing with patient consent, electrocardiogram (for patients on methadone)
- For opioid agonists and partial agonists
  - Initiate individualized dosing focused on improving symptoms of withdrawal without over-sedation
  - Titrate dosing over days to weeks to target cravings and blunt the euphoric responses from self-administered nonprescribed opioids
- Assess patient for changes in health (eg, pregnancy, pulmonary disease, hepatitis) and medications (prescribed, OTC, or herbals)

BEYOND THE BOOK

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Review the General Interviewing Guidelines provided by the National Institute on Drug Abuse (NIDA) at

General Interviewing Guidelines

https://https://www.drugabuse.gov/sites/default/files/general_interviewing_guidelines4-28-06.pdf

Watch the following video of a patient interview and note how you could improve the interaction for the patient and the interviewer.

https://https://www.youtube.com/watch?v=_VlvanBFkvI

INTRODUCTION

Psychoactive substance use dates back to prehistoric times where humans in the Neolithic era (8,500-4,000 BC) were found to use mood altering plants and fruits.[2] Thus, SUDs are not new; however, the types of substance used have evolved from the naturally occurring sources such as opium, alcohol, cannabis, peyote, psychedelic mushrooms, and coca leaves to synthetic or manufactured products. In fact, illicitly manufactured fentanyl (IMF) products fueled the third phase of the overdose crisis and have contributed to unprecedented overdose deaths across the United States.[3]

1 Society's views on what are considered non-socially acceptable drugs have also changed with time. Alcohol, nicotine, and caffeine are three prime examples substances considered by most to be socially acceptable. Much of this is due to a prohibitionist approach the United States has taken against most other drugs, which cannot be separated from the county's sordid past with racism such that drugs more often used by people of color have been, and continue to be, more heavily policed.[4] Even though alcohol and nicotine tend to be more socially acceptable substances, their use imposes an enormous social and economic cost on our society. The World Health Organization (WHO) estimates that in 2016, there were more than 3 million deaths worldwide attributed alcohol consumption with the majority being males. Additionally, it is estimated that more than 2.4 million individuals with an alcohol use disorder (AUD) also have another SUD.[5] In recent years, many states have enacted legislation to allow medical and, sometimes, recreational use of cannabis; however, up to 30% of those who use cannabis may develop a use disorder, and this risk is seven times higher in those who start using before the age of 18 years.[6,7] Additionally, the use of psychedelic/hallucinogenic substances is now becoming more mainstream as research into their therapeutic use is growing. Currently research on the use of ketamine, lysergic acid diethylamide (LSD), and psilocybin mushrooms are ongoing for the treatment of depression and posttraumatic stress disorder (Chapter 88).[8] While there has been an increasing variety of legal substances available in recent history, these legal substances tend to have lower risk of harmful consequences than substances determined to be illegal by the Drug Enforcement Administration. Illegal substances are unregulated and require clandestine manufacturing, sales, and distribution, a process involving substantial risks at each step. The final products sold to people who use drugs are more likely to be contaminated or adulterated with potentially lethal ingredients.[9] Some countries (e.g., Portugal, The Netherlands) have lowered these risks by decriminalizing drugs to varying extents; the United States has just recently started to open safe consumption spaces so people who use drugs can receive immediate medical assistance if they do overdose.[10]

2 3 SUDs affect the health and well-being of millions of Americans as cardiovascular disease, stroke, cancer, lung disease, hepatitis, and infection with the HIV can all be affected by substance use. Some conditions (eg, stroke, infection, myocardial infarction) can occur after only one or a few occasions of use. Long-term use shares a causal relationship with at least 200 types of chronic diseases or injuries (eg, esophageal cancer, liver cancer, and cirrhosis of the liver, epilepsy, falls, and motor vehicle accidents) worldwide.[11] These consequences come at a cost. Recent data shows that the use of prescription medications other than as prescribed is estimated at 78.5 billion dollars, of which over 30% was attributed to an increase in healthcare and substance-related disorder treatment costs.[12] Other costs in this estimate include criminal legal system and lost productivity. Regardless of the substance involved, SUDs can have devastating impacts on an individual's quality of life, as well as their family's quality of life, not to mention the unmeasurable pain and suffering incurred when losing a loved one to an overdose.[12] Therefore, effectively identifying and addressing substance use is critical to addressing the human and economic impact.

National Survey on Drug Use and Health

4 The incidence of SUD has been tracked nationally since the 1970s using several different services. The National Survey on Drug Use and Health (NSDUH)[5] is the primary source of statistical information on the use of substances by the US population. Conducted by the federal government since 1971, the survey collects data from a representative sample of the population at their place of residence. The NSDUH obtains information on nine categories of substances: cannabis (including hashish), cocaine (including crack), heroin, hallucinogens, and inhalants, as well as the nonmedical use of prescription pain relievers, sedative-hypnotics, stimulants, and other "psychotherapeutics."[5]

In 2019, 165.1 million Americans aged 12 or older used a substance within the month prior to when they answered the survey questions. This translates into 60.1% of that population. Alcohol was the most common substance with 50.8% (139.7 million) reporting drinking in the month prior, whereas 21.1% used a tobacco product and 13% used other substances (eg, cannabis, nonprescription opioids, cocaine). Use of cannabis is increasing. From 2018 to 2019, the number of people older than 12 who initiated cannabis use in the year prior increased from 2.2 million to 3.5 million, which translates to a 59% increase. The misuse of prescription pain medications has decreased by 23.8%.

In 2019, questions were added to the survey to assess the use of medication used for the treatment of alcohol and opioid use disorders. Only 1.7% of 14.5 million people received medications for AUD and only 28.7% of 2.3 million people received medications for opioid use disorder (OUD). While there seems to be a substantial increase in substance use and SUDs in the United States, there also appears to be an underutilization of medications that are effective for treatment.[5]

Monitoring the Future Study

Every year the Institute for Social Research at the University of Michigan conducts its Monitoring the Future Study (MTFS), supported under a series of research grants from the NIDA.[13] A main purpose of this research is to study changes in the beliefs, attitudes, and behavior of young people in the United States regarding substance use. In the 2020 report, many substances remained fairly stable in regard to annual prevalence of use. Crystalized methamphetamine and opioids other than heroin continued to decline, which is in line with recent trends for these substances. Trends in the number of individuals vaping any substance are showing a leveling out after two consecutive years of concerning increases in prevalence. Most formulations of tobacco showed decreases in use, but the incidence of cigarette smoking remained constant compared to the previous year. Alcohol continued to be the most commonly used substance by teenagers and in 2020 the prevalence showed an increase compared to previous years.[13]

Adolescent Brain Cognitive Development Study

The Adolescent Brain Cognitive Development (ABCD) study is the largest long-term study of brain development and child health ever conducted at multiple states within the United States (https://abcdstudy.org/). Funded by the National Institute for Drug Abuse (NIDA), this study tracks individuals from late childhood to early adulthood to help clarify how and to what extent cannabis and other substances, alone and in combination, affect adolescent brain development. While data from this study are just beginning to emerge, as information is being released it is freely available to families, educators, and researchers on their website.

ASSESSING SUBSTANCE USE DISORDER

Validated scales can be used for screening, diagnosing, and monitoring SUDs. The type of scale used depends on the substance being assessed. Table e84-1 contains examples of the scales available for use for several specific use disorders. Greater details regarding the use of these scales is included in Chapters 85 and 86, as well as on the National Institute for Drug Abuse webpage at https://www.drugabuse.gov/nidamed-medical-health-professionals/screening-tools-resources/chart-screening-tools.

TABLE e84-1

Sample Scales Used for the Assessment of Substance Use Disorders

General Substance Use Disorder

- Drug Abuse Screening Test (DAST-10). This is a patient completed questionnaire that is scored by a clinician; however, this scale does not include alcohol or tobacco use. It is recommended that for individuals scoring between 1 and 2, clinician interventions should consist of a discussion using motivational interviewing techniques to increase awareness. For those scoring 3 to 5, this discussion should also encourage abstinence, and for those scoring 6 or greater a referral to specialized treatment should occur.[14]
- Drug Abuse Screening Test Adolescent Version (DAST-20). This scale consists of 20 yes or no questions. A score of 6 is indicative of a substance use problem.[15]
- CRAFFT (which stands for CAR, RELAX, ALONE, FORGET, FRIENDS, TROUBLE) is a structured interview scale that is also used for children and adolescents. This clinician administered scale consists of nine questions. Scores of 3 or more suggest SUD.[16,17]

Alcohol Use Disorder

- The CAGE questionnaire is a mnemonic for four questions, a score of 2 or more may be indicative of a use disorder.[18]
  - Have you ever felt the need to **C**ut down on your drinking?
  - Have people **A**nnoyed you by criticizing your drinking?
  - Have you ever felt **G**uilty about your drinking?
  - Have you ever had a drink the first thing in the morning ("**E**ye opener")?
- The Alcohol Use Disorders Identification Test (AUDIT) is a validated 10-question screening tool originally developed to screen for physical alcohol dependence, problems associated with alcohol use, and the amount and frequency of alcohol consumption in adults in the primary care setting. The maximum score on this scale is 40, with a score of 8 or more strongly indicating hazardous or harmful alcohol consumption that warrants further assessment.[19]
- Severity of Alcohol Dependence Questionnaire (SADQ-C) is a self-administered questionnaire consisting of 20 questions that is meant to be used to measure the severity of misuse or dependence. The total score ranges from 0 to 60 with a score of 16 to 20 indicating moderate dependence and a score greater than 31 indicating severe alcohol dependence.[20]

Alcohol Withdrawal

- The Clinical Institute Withdrawal Assessment for Alcohol – Revised (CIWA-Ar) allows for symptom-triggered treatment of alcohol withdrawal to assess severity and avoid progression to more severe stages of withdrawal. This assessment can be used for monitoring withdrawal symptoms and can be completed by a clinician in approximately 5 minutes. The maximum score obtainable on this scale is 67 and those scoring less than 8 usually do not need medication therapy for alcohol withdrawal.[21]

Sedative Hypnotic Withdrawal

- Clinical Institute Withdrawal Assessment Scale – Benzodiazepines (CIWA-B). This scale consists of 17 patient questions (scored from 0 to 4) and three physical assessments made by the clinician that are also rated from 0 to 4. The total score ranges from 1 to 20, indicating mild withdrawal, 21 to 40 moderate withdrawal, 41 to 60 severe withdrawal, and 61 to 80 very severe withdrawal.[22]

Nicotine Use Disorder

- 5As to assess smoking status[23]:
  - **A**sk about smoking

- **A**dvise the person to quit through clear individualized messages
- **A**ssess the patient's willingness to quit
- **A**ssist in quitting
- **A**rrange follow-up and support

- The Fagerström Test for Nicotine Dependence (FTND) can be used to help identify how much the patient is smoking, the compulsion to use, and the level of dependence. The yes/no items are scored from 0 to 1 and the multiple choice items are scored from 0 to 3. The total score ranges from 0 to 10 and the higher the score the more intense the individual's physical dependence on nicotine.[24,25]
- CAGE Questionnaire Modified for Smoking Behavior. A score of 2 or more may be indicative of a use disorder.
  - Have you ever felt a need to **C**ut down or control your smoking, but had difficulty doing so?
  - Do you ever get **A**nnoyed or angry with people who criticize your smoking or tell you that you ought to quit smoking?
  - Have you ever felt **G**uilty about your smoking or about something you did while smoking?
  - Do you ever smoke within half an hour of waking up ("**E**ye-opener")?

Opioid Withdrawal

- Clinical Opiate Withdrawal Scale (COWS) is an 11-item scale which is to be administered by a clinician in both the inpatient and outpatient setting. The primary use of this scale is to objectively rate the common signs and symptoms of opioid withdrawal. Additionally, this scale can be used to monitor these symptoms over time, regardless of whether treatment is started. The total score from this scale can also help clinicians determine the stage or severity of opioid withdrawal and assess the level of physical dependence on opioids.[26]
- Objective Opioid Withdrawal Scale (OOWS). Clinicians observe patients during a 5-minute period and indicate whether 13 physical signs are present (0=no, 1=yes) for a total score ranging from 0 to 13.[27]
- Subjective Opiate Withdrawal Scale (SOWS). This scale is a partner to the OOWS, and is patient rated. It contains 16 symptoms whose intensity is rated on a scale of 0 (not at all) to 4 (extremely).[27]

Stimulant Withdrawal

- Amphetamine Withdrawal Questionnaire is a 10-question scale that rates an individual's use from not at all (0) to very much (4). The scores range from 0 to 40 with higher scores indicating greater severity.[28]

Cannabis Use Disorder

- The Cannabis Use Disorder Identification Test – Revised (CUDIT-R) is an eight-question scale that includes responses that are answered based on a four-point response. The total scores then range from 0 to 32. This scale measures the use over the last six months.[29]

DIAGNOSING SUBSTANCE USE DISORDERS

6 Overall, the true etiology behind SUDs is still unknown, as there is no way to predict why some individuals exposed to substances develop SUD, while others may not. It is generally accepted that there are biological/genetic, psychological, and environmental risk factors along with pharmacological characteristics of certain drugs that can predispose a person to developing SUD (Table e84-2).

TABLE e84-2

Eleven Criteria for Substance Use Disorder as Defined by *DSM-5*

Specific Category	Specific Behavior
Impaired Control	1. Substance is often taken in larger amounts or over a longer period of time than intended
Impaired Control	2. Persistent desire or continued unsuccessful efforts to cut down or control substance use
Impaired Control	3. Considerable amount of time is spent obtaining substance, using substance or recovering from use of substance
Impaired Control	4. Craving or strong desire to use substance
Social Impairment	5. Recurrent use of substance is resulting in failure to fulfill major obligations at work, home, or school
Social Impairment	6. Continue to use substance despite persistent social or interpersonal problems
Social Impairment	7. Reducing or missing social, occupational, or recreational events due to substance use
Risky Use	8. Recurrent substance use in potentially physically hazardous situations
Risky Use	9. Continued use of substance despite knowledge of persistent or recurrent physical or psychological harm that was caused or worsened by the substance
Pharmacological Indicators	10. Tolerance as experienced by either: a. Need for increased amounts of the substance to achieve intoxication or desired result b. A noticeably decreased effect with continued use of the same amount of substance
Pharmacological Indicators	11. Withdrawal as experienced by either: a. Standard symptoms of withdrawal as defined by specific substance b. Use of a substance or a similar substance to relieve or avoid withdrawal symptoms

Data from Reference 1.

7 8 9 The *Diagnostic and Statistical Manual of Mental Disorders* (*DSM–5*) has established nine types of substance-related disorders including alcohol, cannabis, hallucinogens, inhalants, opioids, sedatives/hypnotics/anxiolytics, stimulants (ie, cocaine, amphetamines), tobacco, and caffeine.[1] The diagnosis is based on a set of behaviors related to that substance which fall into four categories including impaired control, social impairment, risky use, and pharmacological indicators. SUD is a "cluster of cognitive, behavioral, and psychological symptoms indicating that the individual continues to use a substance despite significant substance-related consequences." Categories of SUD severity are mild (2-3 symptoms), moderate (4-5 symptoms), or severe (6 or more symptoms).

The current *DSM-5* stratifies substance-related disorders into two groups: substance use disorders and substance-induced disorders (eg, intoxication, withdrawal, or medication-induced mental disorders).[28] These substance-induced disorders can occur acutely or after continued use of a drug. Acute

problems are usually predictable, given the pharmacology of the drug. However, the physical and psychiatric sequelae of chronic substance exposure is more variable. Table e84-3 includes definitions of some of the key terms related to SUDs.

TABLE e84-3

Key Terminology to Characterize or Define a Substance Use Disorder

Lower Risk Use or No Use Refers to consumption of alcohol or other substances in an amount that is lower than that considered physically hazardous or when used in circumstances not defined as psychosocially hazardous. This amount is variable and empirically derived for each substance
Intoxication According to the *DSM-5*, substance-induced disorders include intoxication, withdrawal, and other substance/medication-induced mental disorders (eg, substance-induced psychotic disorder, substance-induced depressive disorder). Intoxication refers to the development of a substance-specific physiological syndrome after exposure, as well as maladaptive behavior caused by the effect of the substance on the central nervous system (CNS). The type of substance used including the frequency, dosage, and route of administration affect the level of intoxication. Individual factors such as level of tolerance will also determine the quantity required to achieve the desired state of intoxication. Evidence for recent intake of the substance can be obtained from the history, physical examination, or laboratory studies.
Withdrawal With repeated exposure to a substance, the nervous system adapts by creating a level of tolerance. When exposure stops or is significantly reduced, withdrawal symptoms specific to each substance class may ensue. The onset, duration, and severity of withdrawal may differ depending on the substance used, chronicity of use, and amount consumed. Treatment measures need to be appropriately instituted to reduce morbidity and mortality.
Tolerance A decrease in response to a drug dose that occurs with continued use. If an individual is tolerant to a drug, increased doses are required to achieve the effects originally produced by lower doses. Both physiological and psychosocial factors may contribute to the development of tolerance.
Dependence ”Dependence” should be used to refer to physical dependence which is in reference to the pharmacological effect of the substance. By definition, this is a state of neurological adaptation that is manifested by a drug class–specific withdrawal syndrome that can be produced by abrupt cessation, rapid dose reduction, decreasing blood level of the drug, and/or administration of an antagonist. Dependence is not unique to drugs that can lead to a SUD. Most marketed medications that affect homeostatic functions in the body will eventually cause physical dependence such that stopping them may lead to discontinuation (ie, withdrawal) symptoms. This includes antidepressants, certain antihypertensives, and steroids, among others.
Addiction This is a historical term used to indicate a condition ‘‘characterized by an inability to consistently abstain, impairment in behavioral control, craving, diminished recognition of significant problems with one’s behaviors and interpersonal relationships, and a dysfunctional emotional response.’’ However, some feel this term is problematic because it often incorrectly conflates addiction and physical dependence. Additionally, it has been suggested that use of the term addiction is pejorative and invites stigma. Since SUDs are considered to be synonymous to addiction, some groups recommend its preferential use. When used, addiction should only be used to represent a severe SUD.
Pharmacotherapy for SUD The process of using pharmacotherapy to treat SUD has been rife with many terms that are inaccurate and pejorative in nature. These treatments do not substitute for or assist in treatments, despite the commonly known term “Medication Assisted Treatment or MAT.” Better terms for describing the pharmacotherapy of SUD include “medication treatment,” “opioid agonist treatment,” or psychosocially assisted pharmacotherapy.”

Data from References 30–32.

Substance Use Disorder Terms

10 Despite efforts to streamline the diagnosis of SUD, a large collection of terms are still commonly used, many without precise meaning. The lack of universal agreement on language hampers effective communication among professionals leading to difficulties in formulating public policy and administering third-party reimbursement programs. To clarify the meaning of addiction-related terms, in 2007 the American Society of Addiction Medicine (ASAM) endorsed the establishment of a Descriptive and Diagnostic Terminology Action Group (DDTAG).[30] The current definitions of key terminology related to SUD provided by ASAM can be found in Table e84-3. It is important to be able to differentiate these key terms when providing patient care and communicating about pain management or SUD. Patients taking their medications as prescribed may still develop tolerance, physical dependence, and withdrawal symptoms upon abrupt discontinuation of the medication. Unfortunately, tolerance and physical dependence are inevitable consequences of chronic treatment with opioids and certain other medications, but by themselves, tolerance and physical dependence do not imply "addiction."

11 It is important to note that the terminology often used in regards to SUD is changing in an effort to reduce stigma and the negative biases that often occur when discussing SUDs. This effort encourages the use of person first non-judmental language. Government institutions like the National Institute for Drug Abuse (NIDA) and the Substance Abuse and Mental Health Services Administration (SAMHSA) support these efforts despite the fact that within their names lies one of the terms ("abuse") they recommend avoiding, as changing their names would require an act of Congress. Regardless, they are advocating for this change in terminology to help individuals who use substances maintain their dignity as whole human beings. As healthcare providers, we need to lead by example in changing our language to accurately reflect the science-based understanding of SUDs. Table e84-4 outlines some examples provided by NIDA regarding words to use and not use to carry out this effort effectively.

TABLE e84-4

Preferred and Non-preferred Words for Characterization of a Substance Use dDsorder

Words to use	Words to not use
• Person or Individual with a SUD • Person who uses drugs	• Addict • User • Substance abuser or drug abuser • Junkie • Alcoholic • Drunk
• Person in recovery or long-term recovery • Person who previously used drugs	• Former addict • Reformed addict
• Testing positive on a drug screen	• Dirty or failing a drug test
• SUD • Drug addiction • Use	• Habit • Abuse
• Medication treatment for SUD • Medication for SUD • Pharmacotherapy	• Medication-assisted treatment • Opioid substitution • Replacement therapy
• Being in remission or recovery • Testing negative on a drug screen • Abstinent from drugs	• Clean

Data from Reference 33.

CONCLUSION

SUD is one of the most challenging public health issues that our society faces today.

12 The study of SUDs and their treatment is relatively new, and the terminology surrounding SUDs is progressing quickly. Diagnosis is rather straightforward within the context of the *DSM-5* diagnostic criteria. What is not straightforward is some of the terminology and phrasing surrounding SUD. Accurate, patient-focused, and non-judgmental language is a key factor to securing patient engagement and participation. According to data from the NSDUH and MTFS, substance use is still increasing within the US population. The growing financial cost and human suffering caused by this group of disorders will require substantial healthcare resources including research and clinical implementation of therapies as well as even more substantial resources provided by the public health domain to help stem the tide of the mounting problem.

ABBREVIATIONS

ABCD	Adolescent Brain Cognitive Development Study
ASAM	American Society of Addiction Medicine
AUD	alcohol use disorder
AUDIT	Alcohol use disorder identification test
BP	blood pressure
CIWA-Ar	Clinical Institute Withdrawal Assessment – Revised
CIWA-B	Clinical Institute Withdrawal Assessment Scale – Benzodiazepines
COWS	Clinical Opiate Withdrawal Score
CUDIT-R	The Cannabis Use Disorder Identification Test – Revised
DAST	Drug Abuse Screen Test
DAST-A	Drug Abuse Screen Test for Adolescents
DDTAG	Diagnostic Terminology Action Group
DSM-5	*Diagnostic and Statistical Manual of Mental Disorders, 5th Edition*
FTND	Fagerström test for nicotine dependence
HIV	human immunodeficiency virus
HR	heart rate
IMF	illicitly manufactured fentanyl
LSD	lysergic acid diethylamide
MAT	medication-assisted therapy
MTFS	Monitoring the Future Study
NIDA	National Institute on Drug Abuse
NSDUH	National Survey on Drug Use and Health
OOWS	Objective Opiate Withdrawal Scale
OTC	over-the-counter
OUD	opioid use disorder
PDMP	Prescriptions drug monitoring program

QoL	quality of life
RR	respiratory rate
SADQ-C	Severity of Alcohol Dependence Questionnaire
SAMHSA	Substance Abuse and Mental Health Services Administration
SCr	serum creatinine
SOWS	Subjective Opiate Withdrawal Scale
STI	sexually transmitted infection
SUD	substance use disorder
UDS	urine drug screening
WHO	World Health Organization

REFERENCES

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SELF-ASSESSMENT QUESTIONS

1. The annual cost of prescription drug misuse is estimated to be how much annually?
   A. $25 billion
   B. $78 billion
   C. $250 billion
   D. $780 billion
2. What is the magnitude of risk for cannabis use disorder in individuals that start using before the age of 18:
   A. Two times the risk
   B. Four times the risk
   C. Seven times the risk
   D. Ten times the risk
3. According to the NSDUH what is the most commonly encountered substance within the past month for people over the age of 12 years?
   A. Cannabis
   B. Nicotine
   C. Alcohol
   D. Prescription opioids
4. From 2018 to 2019, what was the percent increase in individuals who used cannabis?

A. 10%

B. 29%

C. 59%

D. 109%

5. Which of the following is a question from the CAGE questionnaire, used to assess whether a patient may display traits consistent with AUD?

A. Have you ever felt the need to switch from wine and/or spirits to beer?

B. Have people annoyed you by criticizing your drinking?

C. Has your spouse ever felt guilty about your drinking?

D. Do you need to have a drink each night before bed?

6. What term is defined as decrease in response to a drug dose that occurs with continued use?

A. Physical dependence

B. Addiction

C. Tolerance

D. Withdrawal

7. What term is defined as a state of neurological adaptation that is manifested by a drug class–specific syndrome produced by abrupt cessation, dose reduction, and/or administration of an antagonist?

A. Physical dependence

B. Addiction

C. Tolerance

D. Withdrawal

8. Which of the following assessments is a symptom-triggered scale for assessing withdrawal from alcohol?

A. The SADQ-C

B. The FTND

C. The COWS

D. The CIWA-Ar

9. Which of the following rating scales can be used for the assessment of cannabis use disorder?

A. The FTND

B. The COWS

C. The CUDIT-R

D. The CAGE

10. Which of the following scales has been developed for use in adolescents?

    A. The CAGE

    B. The CRAFFT

    C. The AUDIT

    D. The OOWS

11. Why is the term medication-assisted therapy or MAT no longer preferred?

    A. NIDA has recommended against its use.

    B. It is not accurate, as pharmacotherapy for SUD does not really assist with treatment, rather it is a treatment.

    C. Patient groups like narcotic anonymous released a statement against its use.

    D. It was not broad enough, as it only applies to pharmacotherapy for AUD.

12. What is driving the change to use new terms when describing a SUD?

    A. The previously used terms were old.

    B. The previously used terms were not accurate.

    C. The previously used terms perpetuated stigma.

    D. The previously used terms were not endorsed by the WHO.

13. Which of the following criteria provided by the *DSM-5* describe impaired control?

    A. Continued use of substance despite persistent recurrent physical harm.

    B. The need for increased amount of the substance to achieve the desired result.

    C. Continued use despite persistent social or interpersonal problems.

    D. Considerable amount of time is spent obtaining substance.

14. Which of the following criteria provided by the *DSM-5* describe risky use?

    A. Substance is taken in larger amounts than intended.

    B. Use is continued despite failure to fulfill major obligations at home.

    C. Recurrent substance use in situations that can result in increased risk of physical harm

    D. Strong desire to use substance

15. Which of the following criteria provided by the *DSM-5* describe Pharmacological Indicators?

    A. Use of a substance or similar substance to relieve or avoid withdrawal symptoms

    B. Continued use despite knowledge of psychological harm worsened by the substance

    C. Considerable amount of time spent recovering from use of the substance

D. Desire to seek out treatment of substance use

SELF-ASSESSMENT QUESTION-ANSWERS

1. **B.** The annual cost of prescription drug misuse alone is estimated at 78.5 billion dollars, of which over 30% was attributed to an increase in healthcare and substance-related disorder treatment costs. See section "Introduction."

2. **C.** The data suggests that up to 30% of those who use cannabis may develop a use disorder, and that this risk is seven times higher in those who start using before the age of 18 years. See section "Introduction."

3. **C.** According to the NSDUH, alcohol is the most common substance with 50.8% (139.7 million) reporting drinking in the month prior. See section "National Survey on Drug Use and Health."

4. **D.** Use of cannabis is increasing. From 2018 to 2019, the number of people older than 12 who initiated cannabis use in the year prior increased from 2.2 million to 3.5 million, which translates to a 59% increase. See section "National Survey on Drug Use and Health."

5. **B.** Of the four answer given, only B is one of the questions included as part of the CAGE assessment for AUD (see Table e84-1).

6. **C.** The definition of tolerance is a decrease in response to a drug dose that occurs with continued use (see Table e84-3).

7. **D.** With repeated exposure, a hyper-excitable state can result when a substance is withdrawn. The onset, duration, and severity of withdrawal may differ depending on the substance used, chronicity of use, and amount consumed (see Table e84-3).

8. **D.** The CIWA-Ar allows for symptom-triggered treatment of alcohol withdrawal to assess severity and avoid progression to more severe stages of withdrawal (see Table e84-1).

9. **C.** The CUDIT-R is an eight-question scale that includes responses that are answered based on a four-point response (see Table e84-1).

10. **B.** The CRAFFT is a structured interview scale that is also used for children and adolescents to assess for general substance use disorder (see Table e84-1).

11. **B.** The preferred term is medication treatment for SUD instead of medication-assisted treatment because pharmacotherapy for SUD is treatment; it does not assist (see Table e84-3).

12. **C.** These changes are being advocated for individuals suffering from an SUD to reduce stigma and help them maintain dignity as whole human beings (see Table e84-3).

13. **D.** A specific behavior associated with impaired control according to the *DSM-5* definition is when a considerable amount of time is spent obtaining substance, using substance, or recovering from use of substance (see Table e84-2).

14. **C.** A specific behavior associated with risky use according to the *DSM-5* definition is continued use of substance despite knowledge of persistent or recurrent physical or psychological harm that was caused or worsened by the substance (see Table e84-2).

15. **A.** Use of a substance or a similar substance to relieve or avoid withdrawal symptoms is considered a pharmacological indicator according to the *DSM-5* criteria (see Table e84-2).