

Review Article

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Drug Addiction and Factors Influencing Addiction

Mohammad Kamil

Director General, Lotus Holistic Institute, Abu Dhabi, UAE

*Corresponding author

Mohammad Kamil, Director General, Lotus Holistic Institute, Abu Dhabi, UAE.

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Drug addiction, also called substance use disorder, is a disease that affects a person's brain and behavior and leads to an inability to control the use of a legal or illegal drug or medicine. Substances such as alcohol, marijuana, and nicotine are also considered drugs.

Addiction is a lot like other diseases, such as heart disease. Both disrupt the normal, healthy functioning of an organ in the body, both have serious, harmful effects, and both are, in many cases, preventable and treatable. If left untreated, they can last a lifetime and may lead to death.

Diagnosing drug addiction (substance use disorder) requires a thorough evaluation and often includes an assessment by a psychiatrist, a psychologist, or a licensed alcohol and drug counselor. Blood, urine or other lab tests are used to assess drug use, but they're not a diagnostic test for addiction. However, these tests may be used for monitoring treatment and recovery.

Factors Influencing Addiction

- Home and Family
- Peer and School.
- Early use.

The risk of drug use increases greatly during times of transition. For an adult, a divorce or loss of a job may increase the risk of drug use. For a teenager, risky times include moving, family divorce, or changing schools.³⁵ When children advance from elementary through middle school, they face new and challenging social, family, and academic situations. Often during this period, children are exposed to substances such as cigarettes and alcohol for the first time. When they enter high school, teens may encounter greater availability of drugs, drug use by older teens, and social activities where drugs are used.

Substance Use Disorder (SUD)

Substance use disorder (SUD) is a problematic pattern of substance use that affects your health and well-being. Some of the most common substances include alcohol, opioids, and marijuana. It can range from mild to severe (addiction). SUD is a treatable mental health condition.

Substances change how our brain functions over time. They release dopamine, a chemical in our brain that makes us feel good — until the substance wears off. Our brain and body want to continue this good feeling, even if it's unhealthy. It can significantly impact our

emotional well-being, relationships, education and career. And in many cases, it's life-threatening.

SUD exists on a spectrum and can range from mild to moderate to severe. No matter where we are, know that this condition is treatable and help is available when we're ready. Some of the most common types include:

- Alcohol use disorder
- Cocaine use disorder
- Cannabis use disorder
- Tobacco use disorder
- Methamphetamine use disorder
- Opioid use disorder

It's common to have more than one SUD at a time, like alcohol use disorder and tobacco use disorder. This is known as a polysubstance use disorder.

The most common type of substance use disorder?

Alcohol use disorder is the most common type of SUD in the U.S.

The symptoms and effects of substance use disorder vary based on the type of substance you use. There are two groups of symptoms based on when or if the substance is in your body. These include:

Intoxication

This is the immediate and short-term effect of a substance on our body. Symptoms include feeling sleepy, calm, excited, and intense emotions etc. The substance can also affect our judgment and decision-making or physical and mental functioning.

Withdrawal

These are symptoms that occur when the short-term effects of a substance wear off and the substance begins to leave the body. Symptoms are unpleasant and could include nausea and vomiting, diarrhea, sweating, difficulty sleeping, muscle cramping, and mood changes.

According to the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, the signs of substance use disorder include:

- Taking the substance in larger amounts and for a longer period of time than we're meant to if it's a prescription.

- Having a strong desire or urge to use the substance.
- Having unsuccessful efforts to cut down on or manage substance use.
- Spending a lot of time obtaining or using the substance or recovering from its effects.
- Having issues fulfilling responsibilities at work, school or home due to substance use.
- Continuing to use the substance, even when it causes problems in relationships.
- Giving up social, occupational or recreational activities because of substance use.
- Using substances again and again, even when it puts you in danger.
- Continuing substance use despite an ongoing physical or psychological problem that's likely caused or worsened by the substance.
- Developing tolerance (need for increased amounts to get the same effect).
- Experiencing withdrawal symptoms, which can be relieved by taking more of the substance.
- Seeking medical care as soon as you have signs of substance use disorder is essential.

What Causes Substance Use Disorder?

The exact cause of a substance use disorder isn't well understood. However, research shows that the changes to our brain's reward system due to a substance's addictive potential may cause the condition.

How does a Substance Use Disorder Develop?

Studies found that many factors may be involved in the development of an SUD.

These could include

- Social pressure.
- Curiosity of substance effects.
- Performance enhancement (to do better at work or school).
- Emotional escape (like relief from stress, anxiety, fear or depression).

The progression to a substance use disorder often follows this pattern

- Experimental use (or prescription use): Trying a substance once or using the substance as directed.
- Occasional use: Taking a substance socially or using prescriptions not as directed.
- Heavy use: Taking a substance routinely, with few to no days off of the substance.
- Substance use disorder: We take the substance daily or multiple times daily. There are rarely times when we're not using a substance.
- This is just an example, as this condition looks very different and ranges in severity from person to person.

What are the Risk Factors for a Substance Use Disorder?

Substance use disorder can affect anyone.

We may be more at risk of developing it if we

- Have an underlying mental health condition.
- Have a biological relative with a SUD.
- Have a history of adverse childhood experiences.
- Have a genetic susceptibility (a genetic variant makes SUDs more common).
- Have exposure or easy access to substances.

What are the Complications of Substance Use Disorder?

One of the more common and most deadly complications of substance use disorder is overdose. An overdose happens when you take too much of a substance. This is a medical emergency.

Different substances affect different parts of our body. For example, if we overdose on opioids, it targets the part of our brain that regulates our breathing. If not treated quickly, our breathing slows or stops completely, leading to death.

SUD complications are extensive and vary based on severity and type. Common complications may include

- Cancer
- Depression.
- Infections (hepatitis B, hepatitis C and HIV)
- Memory loss
- Academic or career challenges
- Interpersonal relationship difficulties
- Unsafe, illegal, or at-risk behaviors
- Diagnosis and Tests

Now the Question Arises, How is Substance Use Disorder Diagnosed?

There isn't a single test available to diagnose substance use disorder. Instead, healthcare providers rely on a thorough evaluation of your medical history and behaviors surrounding substance use. They may order drug tests to see how much and how many types of substances are in our bodies at a time. They may also evaluate prescription drug monitoring program reports (a database of distributed controlled substances).

A provider will also ask about our mental health history, as it's common to have an SUD and a mental health condition.

According to the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-5), a person must have at least two signs in the symptoms section over 12 months to be diagnosed with substance use disorder.

It's important to remember that this condition exists on a spectrum of severity:

- Two to three signs indicate a mild substance use disorder.
- Four or five signs indicate a moderate substance use disorder.
- Six or more symptoms indicate a severe substance use disorder.

Management and Treatment

Steps of preventing the relapse of substance use disorder.

How is substance use disorder treated?

The first step of substance use disorder treatment is withdrawal management. This is where we stop taking the substance, allowing it to leave our body. Depending on the severity, a healthcare provider may offer medications to lessen the effects of withdrawal symptoms, as they can be rough physically and mentally. After detox, we may continue a course of treatment with:

Therapy Medication

SUD treatment is highly individualized. We may need different types of treatment at different times during our recovery. Several types of treatment settings, including inpatient and outpatient settings, as well as short-term care and long-term therapeutic communities, are available.

SUD Therapy

Many different types of therapy can help treat SUD and any other co-occurring mental health conditions. Some examples of effective therapies for adults with SUDs include:

Assertive Community Treatment (ACT)

ACT provides mental health services in a community setting rather than a residential or hospital setting. ACT is highly individualized. Our treatment plan will focus on our strengths, needs, and goals for the future.

Cognitive Behavioral Therapy (CBT)

CBT helps us identify problematic patterns of behavior and thinking. We will set goals to find healthier ways to cope.

Contingency Management

This type of therapy encourages us to set personal goals. When we reach a goal, it's reinforced with a reward.

Dialectical Behavior Therapy (DBT)

DBT is a type of talk therapy similar to CBT. It's designed to help us manage intense emotions and understand how our thoughts influence our behaviors.

Family Therapy

Family therapy helps us improve relationships and behaviors within a family or group setting.

Motivational Enhancement Therapy

This type of therapy encourages us to set attainable goals. A mental health professional will encourage us to take steps to reach these goals.

Therapeutic Communities (TCs)

A TC is a long-term residential treatment that focuses on helping us develop new, healthier values and behaviors related to substance use and other co-occurring mental health conditions.

Participating in self-help programs, like Narcotics Anonymous, can also play a significant role in SUD treatment. These programs support behavioral modification through self-help and peer support. Group therapy supports people with SUD in maintaining abstinence and restraint.

Healthcare providers may recommend therapies alone or in combination with medications.

SUD Medications

Medications can help modify our brain chemistry to help treat certain SUDs. They can also relieve cravings and withdrawal symptoms.

The following U.S. Food and Drug Administration (FDA)-approved medication-assisted treatments are available:

- Opioids: Methadone, buprenorphine and naltrexone.
- Alcohol: Naltrexone, acamprosate and disulfiram.
- Tobacco: A nicotine patch, nasal spray, gum or lozenge; bupropion or varenicline.
- Outlook / Prognosis

The Outlook for Substance use Disorder

The prognosis (outlook) for this condition varies based on several factors, including:

- The type and severity of the SUD
- The level of commitment to treatment and recovery
- Genetics

How do we Cope During Stressful Situations?

Substance use disorder is a lifelong disease. But recovery is possible. Different tools work for different people. Many find success through support groups (like Narcotics Anonymous) and ongoing therapy.

Relapses are common with SUD. A relapse is returning to a substance after stopping it for a period of time. We'll need to detox again and restart our treatment cycle from the beginning. This can be a frustrating process. Relapses can happen years after we last took a substance. It helps to have a strong support system to rely on if we may be at risk of relapse.

Our healthcare provider should review our treatment plan regularly. It's normal for our goals or lifestyle to change. This may mean we try a different type of therapy or a new medication. A provider can help us make adjustments throughout our lives as needed.

Prevention

Can substance use disorder be prevented?

We can't prevent all cases of substance use disorder because there are a lot of factors (many of which are outside of our control) that could play a role in how the condition develops. However, we can take steps to reduce our risk.

Education in schools, communities, and families may reduce our risk of using a substance or misusing a prescription medication for the first time. Other ways to prevent SUD include:

- Following instructions for prescription medications. Don't take more than instructed. Opioid use disorder, for instance, can start after just five days of misuse.
- We should never share our prescription medication with someone else or sell our medication. Always store it in a safe place away from children.
- If we have leftover prescription medications (like opioids) at the end of our treatment, find a community drug take-back program or pharmacy mail-back program to safely dispose of them.
- The risk of substance use increases during times of stress and change. For an adult, a divorce, loss of a job, or death of a loved one may increase the risk of substance use. For a teenager, moving, family divorce, or changing schools can increase their risk. It's important to turn to healthy coping mechanisms during these times of change, like exercising, meditating, or learning a new hobby. Consider seeing a mental health professional if we're having difficulty managing stress.

If we're currently using a substance regularly and are concerned it's turning into a habit we're unable to stop on our own, we have to talk to a healthcare provider. A provider can also give us guidance on how to have a conversation with our children about SUD and get them help if we think they're at risk.

Treatment is challenging. Detoxing is unpleasant. Therapy is emotionally exhausting. But recovery is rewarding. We may want to reach out to a friend or loved one for support as we start our treatment journey. Their encouragement could be the motivation we need to talk to a healthcare provider. We may need continuing care throughout our lives, as SUD is a chronic condition.

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