EVIDENCE-BASED INTRICACIES OF SUBSTANCE ABUSE AND ADDICTION

ABSTRACT

Substance abuse is an excessive and continued use of a substance despite experiencing problems as a result. The repercussions thereof incur heavy costs on economies, families, and communities globally every year, while access to treatment and recovery support is still lacking in many contexts. This article briefly summarizes the concepts of substance abuse and addiction, addresses certain risk factors for their development, and touches upon current treatment methods. Towards prevention of substance problems in future generations, a special focus is placed on addressing these issues in youth by properly informing parents on the risk factors and preventative strategies relevant to their children.

Underwritten by

Alissa Lee, Founder of Cannabis For Children International, and the professional CFCI Education Coalition volunteers who are focused on improving safety awareness, education, and open communication worldwide.

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This article briefly summarizes the concepts of substance abuse and addiction, addresses certain risk factors for their development, and touches upon current treatment methods. Towards prevention of substance problems in future generations, a special focus is placed on addressing these issues in youth by properly informing parents on the risk factors and preventative strategies relevant to their children.

OBJECTIVES:
The article is meant to help reframe addictive behaviors and unhealthy lifestyles at an early age. As resources for mental health care and addiction recovery services are often lacking in many communities and contexts, this work aims to review current and future strategies for treatment and prevention of substance abuse and addiction.

- Describe the meaning of substance abuse/addiction.
- Inform on the causes and risk factors associated with substance addiction.
- Elaborate on reasons why youth are at risk of drug addiction.
- Address recovery support means and treatment approaches both medically and psychosocially.
- Discuss parents' and guardians' approaches to addressing substance abuse with their children.
- Discuss methods of preventing substance abuse/addiction in individuals.

Target Audience: Professional Institutions and Individuals: World Health Organization and United Nations, Physicians, Medical Providers, Mental Health Services, Education, and Social Services

Company Name: Cannabis For Children International (CFCI)

Website: www.cannabisforchildren.org

Industry: Cannabis Advocacy Non-Profit Organization

Company Description: Cannabis For Children International is a global 501c3 NPO/NGO focused on improving safety awareness, education, and open communication about cannabis use.

GLOSSARY of TERMS

Psychiatric
Regarding mental illness and its treatments

SUD (Substance Use Disorder)
Novel “umbrella” term defined in the latest version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) of the American Psychiatric Association, whereunder substance abuse, dependency and addiction are diagnosed on a "sliding scale" of severity according to the same criteria.
Substance use disorder is broadly defined as the continued use of substances (including alcohol) in the face of significant harm and negative consequences. Substance abuse disorders are marked by a variety of mental/emotional, physical, and behavioral issues, including persistent guilt.

Genetic Predisposition
A genetic predisposition (also known as genetic susceptibility) is a specific variation or group of variations in a person's genetic makeup that puts them at a higher risk of developing a specific disease.

Mental Disorder
A mental disorder is a pattern of behavior or thought that causes severe distress or impairs personal functioning.

Psychotherapy
Psychotherapy, often known as talk therapy, is a treatment option for persons suffering from a wide range of mental diseases and emotional problems.

Drug Dependence
Drug dependence is a bio-psychological condition in which an individual's ability to operate normally is reliant on the use of a psychoactive substance.

Evidence-based Intricacies of Substance Abuse and Addiction

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INTRODUCTION: DEFINING SUBSTANCE ABUSE AND ADDICTION

Almost a decade ago, costs related to substance abuse and treatment in the US exceeded $700 billion annually[1]. When factoring in the socio-economic burdens that substance abuse and addiction incur worldwide, the accurate, current costs are unfathomable. As with many diseases, prevention of substance use disorders (SUD) results in better population outcomes than treatment of those afflicted. Thus, a clear definition of substance abuse should be emphasized at an early age in an attempt to reduce the spread of SUD in children and youth.

Substance abuse is defined as excessive and continued use of a substance despite experiencing problems as a result[2]. It is most often a detrimental or dangerous use of psychoactive substances; however, substance abuse also includes overuse of food items, medications, or cosmetics. Some of the most abused substances include alcohol, nicotine (tobacco, vapes), caffeine, sugar, pharmaceuticals such as cough syrups, sedative tablets, and illicit narcotics, such as heroin and cocaine[3].

Drug addiction is a recurrent, chronic brain disorder marked by obsessive drug-seeking and drug use despite adverse effects from misusing the substance[4]. Addiction is a chronic but treatable medical condition involving complex interactions among brain circuits, genetics, environment, and an individual's life experiences[5]. Drug addiction is linked to a variety of impairments in physical, psychological, and socioeconomic functioning[6]. Both substance abuse and addiction are diagnosed according to the same predefined criteria for SUD, as set out in the latest volume of the Diagnostic and Statistical Manual of Mental Disorders (DSM)[7, 8]. (Can we link substance abuse and addiction outside diagnosis method: for example - one leads to the other … abuse leads to addiction)

The most involved brain circuits are those that signal rewards and motivation[9, 10]. The release of dopamine is thought to be a major driving factor in addiction. Most drugs of abuse directly or indirectly stimulate dopamine release in the reward centers of the brain. Behavioral addictions may also develop from activities that lead to instant and natural gratification because of dopamine release such as gambling, excessive fitness, social media interactions, online gaming, and overall misuse of the internet. In general, any activity or substance use should be considered as a problem when engaging in, or lack of engaging therein, causes profound emotional and/or physical distress.

Causes and Risk Factors of Addiction

Some individuals may be seeking methods to cope with uncomfortable environments or difficult personal circumstances[11]. Seeking psychiatric care may be an option, but mental healthcare costs, lack of access, and fear of prejudice often inhibit SUD sufferers from reaching professional help[12].

Some individuals may feel more physically and/or mentally capable while engaging in substance use[13]. These people may interpret addiction as a method of survival rather than a problem or health risk. This can be as simple as a cup of coffee each morning; without it, there is a psychological sense of loss of capabilities. People may abuse a substance because they are addicted to having it habitually. Recognizing these types of thoughts and behaviors at an early age as "addictive" may allow a better understanding of many habitual risks.

Individual peer pressure and the need to be accepted among peers is central to the issues of SUD. Although peer pressure can occur at any age, youth are particularly susceptible. When this term was first introduced, it was already proposed to be the most critical factor influencing young people's social interactions[14]. Young people are often more prone to adopt behaviors congruent with group norms to develop a sense of solidarity with peers and to prevent alienation. Compliance with a group of peers can create a kind of pressure that affects choices.

An individual's unique brain chemistry may predispose them to substance abuse and addiction[9, 10]. Brain chemistry may be influenced by genetic predisposition, an internal factor that can be found in one's family history. External factors such as trauma, including a history of physical or emotional abuse[35], or a personal history of substance abuse also affects brain chemistry. However, not all substance abuse/addiction cases are caused by genetics or traumatic events. Nutrition also plays a critical role in brain chemistry[36] and deficiencies should be considered around substance abuse. Although some individuals may show little to no risk factors for abuse, they still may fall victim to the powerful effects of certain substances and behaviors.

An individual's psychology contributes to their risk of substance abuse. Most people who are drug dependent often suffer from other mental illnesses such as depression, anxiety or bipolar disorder[15]. An individual's level of curiosity and/or self-esteem may also play a role. The use of substances also serves as means by which some individuals deal with emotional or physical trauma. Several other socioeconomic factors also increase a person's risk for SUD, such as poverty, drug availability or lack of parental supervision[10, 16].

Why youth are especially at risk

The Youth Risk Behavior Survey from 2019 found that fifteen percent of high school students had used some illicit drugs (i.e., cocaine, inhalants, heroin, methamphetamines, hallucinogens, or ecstasy) in their lifetime, and fourteen percent of students admitted to having abused prescription opioids before[6]. Youth have more access than ever before to a variety of substances. Education about proper substance use is not being promoted as quickly as these products are being produced – especially in the highly profitable alcohol, tobacco, and cannabis industries.

Peer pressure and the need to conform to social standards plays an influential role in childhood exposure to substances. Teenagers are especially known to be more prone to risk-taking behaviors[3]. They often want a "rush" that they cannot get from ordinary pleasures like food or exercise. This is a natural phenomenon, as the adolescent brain is still maturing - with the areas associated with reward and addiction reaching full maturity before the primary cognitive reasoning faculties[17]. During this maturation process, billions of brain connections are formed, broken, and rewired to facilitate learning. However, at this stage any mind-altering experiences can potentially derail the formation of healthy brain circuits. Thus, the risk of exposure to substances that can have lasting effects on the developing brain is particularly high in this age group.

However, one must consider that adolescents and young adults are also under a lot of pressure to perform, impress, and make their parents proud. Young kids want to prove to their friends and parents that they are the best, whether it is in school or on the field. However, the competition to be the best can be fierce. Teenagers and young adults, for example, frequently utilize prescription

stimulants as "smart pills" or study aids to achieve academic success. Together, these factors increase the risk of developing SUD and related complications, especially if use begins at an early age (12 – 14 years old)[17].

Accessing Recovery Support

There is a significant deficit in the availability of recovery services, which leaves medical providers at a loss for referrals for care[8, 15]. The cost of these programs may not be covered by insurance and can be costly. More funding for substance abuse/addiction recovery services is needed worldwide to address these ongoing issues**.**

Cannabis has been medically used in treatments of SUD[18], especially CBD rich varieties. The therapeutic potential for cannabinoids in SUD is partly due to unique interactions of certain cannabis-derived compounds with brain areas related to behavior, motivation and addiction[19,20].

How exactly does cannabis fit into the SUD picture?

Compounds present in the plant species *Cannabis sativa* are known to have a wide range of medically relevant effects. Cannabis produces more than 400 pharmacologically active compounds, of which the most prominent and important are phytocannabinoids (*phyto*- meaning plant-derived). The most abundant and well-studied phytocannabinoids are tetrahydrocannabinol (THC) and cannabidiol (CBD)[21], although many others have been identified in varying amounts.

These compounds influence human biology because they resemble important chemical messengers made in most of our own tissues, known as endocannabinoids. Endo- and phytocannabinoids interact with selected cellular receptors to help control important processes such as metabolism, immunity, growth, tissue repair cell death. The endocannabinoids, their receptors and the metabolic enzymes that make and recycle these molecules in our bodies are altogether known as the endocannabinoid system (ECS)[22, 23].

The ECS is important in the context of SUD, since components of the ECS are abundant in the brain, including the areas related to reward and motivation[24]. This localization of ECS components helps to explain why cannabis use leads to a euphoric “high” and can lead to abuse and addiction (mostly related to THC). However, since cannabinoids do not interact with the brain’s reward circuitry in the same way as many other addictive substances, cannabis has a much lower abuse potential than other drugs of abuse like opioids or amphetamines[25, 26]. On the contrary, this unique interaction with the ECS in the addictive areas of the brain underlies the potential of using cannabinoids in SUD treatment.

Widespread legalization has provided more research into how Cannabis is used to treat underlying causes of, and factors contributing to, addiction. Examples include reducing opioid use with cannabis as a replacement pain treatment[27], or using Cannabis to help treat PTSD symptoms[28], which can reduce the use of other addictive substances (like alcohol) that are often used by patients in an attempt to alleviate their distress. Research suggests that the use of CBD can repair the brain changes caused by heroin and may be a potential treatment for heroin craving and relapse[29,30]. Although cannabis has been approved by international medical authorities for the treatment of

other specific conditions[31], more research is required to understand exactly how it benefits SUD patients and standardize treatment plans.

Treatment Approaches for Substance Abuse and Addiction

There is no one-size-fits-all treatment for SUD. Treatment plans differ depending on the type of medicine used and the patient's diagnosis and situation[12,15]. Treatment modules, interventions, and services must be tailored to an individual's specific problems and needs if they are to return to productive functioning in the home, career, and community. Treatment must be easily accessible. Individuals addicted to drugs may be hesitant to seek treatment. It is vital to take advantage of available resources as soon as they are ready. If treatment is not quickly available or easily accessible, potential patients may be lost. As with several other chronic diseases, the earlier treatment is given in the disease process, the better the chances of a favorable outcome[3].

For many patients, medications are a significant part of their treatment, particularly when paired with psychotherapy and other behavioral therapies[32]. Methadone (Dolophin©, Methadose©), buprenorphine (Suboxone©), and naltrexone (Revia©, Depade©) are examples of medications that can help people addicted to opioids stabilize their life and minimize their harmful drug use. Acamprosate (Campral©), disulfiram (Antabuse©), and naltrexone (Vivitrol©) have been approved to treat alcoholism. When used in conjunction with a thorough behavioral therapy program, a nicotine replacement (such as patches, gum, lozenges, or nasal spray) or an oral medicine (Wellbutrin© or Chantix©) can be an essential element of treatment for people addicted to nicotine.

The most popular types of drug misuse therapy are behavioral therapies, including individual, family, and group counseling. Participating in other peer support programs during and after treatment can also help abstinence be maintained.

Behavioral therapies may include:

- Addressing a patient's readiness to change[33].
- Providing incentives for abstinence.
- Developing skills to resist drug use.
- Substituting constructive and rewarding activities for drug-using activities.
- Improving problem-solving skills.
- Facilitating better interpersonal relationships.

Because drug abuse and addiction, both mental illnesses, frequently co-occur with other mental illnesses, patients who arrive with one should be evaluated for the other(s). When these issues occur, treatment should strive to address both (and all) of them, including the use of mindfulness techniques, counseling, and medications, as necessary.

In summary, effective treatment addresses the individual's numerous needs, not simply their drug dependence. Treatment must address the individual's drug misuse as well as any associated physical, psychological, social, vocational, and legal issues to be effective. It is also crucial that the treatment is tailored to the individual's age, culture, gender, and ethnicity.

Patient-parent education

Clearly identifying addictive behaviors with our children helps them understand the complexity and risks of drug abuse[3, 17]. Education on "exit strategies" from substance abuse/addiction is essential to help create better pathways towards recovery[12]. Teaching a "conscious use of one's body" at an early age may help reduce the likelihood of addictive behaviors[34]. Children must be educated on how to apply themselves towards better overall healthcare.

Being taught with an understanding of "mindful consumption" (identifying how consumption affects one's own body and environment) allows a sense of self-control and helps acknowledge an individual's capabilities. Understanding how personal habits and behaviors impact each person on an individual basis is the best method to improve education about substance abuse/addiction.

Creating a secure space for your children to communicate substance use

Honesty with the child is a great tool to foster communication, which will allow them to vet their opinions, worries, and concerns[34]. If they cannot confide in their guardians, they may seek a social network to provide support instead of their parents or medical care providers. If a child feels unable to talk to parents or caregivers about substance abuse, there is a greater risk of them attaining their substance of choice in an unsafe manner or place. When children find relief in the use of a substance but lack proper ways to access it, the risks further increase.

There is a need to be clear about confidentiality; they need to believe conversations you have with them will be kept secret. The ability to communicate openly plays a significant role in substance abuse/addiction from an early age. Parents set the tone for their children's openness from the start.

Wrap up: Knowledge is power, communication is key

While it is impossible to prevent everyone from using substances, there are still approaches that can be implemented to avoid or reduce the chances of developing an addiction. Awareness is essential; thus, we must promote open access to knowledge of the signs and symptoms of addiction via healthcare providers and manufacturers/suppliers of substances with the potential of abuse, which, in turn, may help bring better awareness of SUD to the public.

A proactive approach, by way of open communication, will allow individuals to identify issues related to substance abuse/addiction much quicker and may encourage more individuals to seek supportive care sooner. Any form of stigmatization towards those suffering from SUD inhibits them from effectively discussing their problems and opinions. Rather, we should focus on promoting education and awareness regarding substance abuse, addiction, and recovery. This will encourage more individuals suffering from SUD to seek out the treatment they require. Guardians and parents should stop looking at substance use with prejudice to allow their children the opportunity to communicate openly about their behaviors and choices regarding substance use.

As a parent, patient, or peer: the ability to consciously recognize and change one's behavior is the essential factor preventing substance abuse/addiction.

Want more insights? For more information or to partner with Cannabis For Children International (CFCI), contact the organization's founder, Alissa Lee, an advocate dedicated to opening barriers in communication related to cannabis use at CannabisForChildren@outlook.com.

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