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# An Overview on Substance Use Disorders Management Approach

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**ABSTRACT**

*Substance use disorders are an arising problem across the world. There are a variety of substances abused, such as sedatives, stimulants, hallucinogens, tobacco, and alcohol. The impact of substance abuse is not confined to a specific age group, as it affects most age groups. In Saudi Arabia, 70% of substance abusers are aged 12 to 22 years old. It is quite difficult to ascertain the root of this problem as multiple environmental and personal factors feed it. We reviewed the literature for substance use disorders, clinical presentation, evaluation, risk factors, and management. PubMed database was utilized for articles selection; gathered papers had undergone a comprehensive revision. As substance use disorders are alarming issues in every society, more efforts must be made to deal with their consequences than preventing the accessibility to these substances. The scope of research on this issue in Saudi Arabia is quite shallow, and more attention should be directed toward it. All the community parties should cooperate to correct the concept of stigmatization to enable those fallen in the net of the adverse effects of these substances to seek medical advice.*

**Keywords:** *Substance, Abuse, Cocaine, Heroin, Nicotine, Alcohol*

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## INTRODUCTION

Substance use disorders are an evident reoccurring problem in every community despite the efforts paid by the regulatory bodies and agencies in the countries (Najafi & Nasiri, 2019). The abusers have consumed different drugs with desirable effects, ranging from sedation and relaxation to the extreme opposite of alertness and euphoria. The substances in use could be legalized but underwent misuse, for instance, tobacco and alcohol, completely obtained from the black markets like cocaine, heroin, and psychedelic, or licensed drugs for medical use such as hydrocodone and oxycodone. As a Muslim community in Saudi Arabia, alcohol is not easily accessible and strictly forbidden socially and legally. The first specialized center to deal with such cases was opened in Riyadh in 1987, followed by several similar centers across the country (Al Nahedh, 1999). By 1996, the number of patients admitted in four of the specialized centers was 18,321 (Al Nahedh, 1999). Recent scoping review published in 2020 suggested that approximately 7 to 8% of Saudis declare drug use. While 70% of them were between the age of 12 to 22 years old (Saquib *et al.*, 2020). The problem of substance use disorders is rather hard to detangle due to the multiple environmental and personal factors included and how each individual reacts to them. In this review, we aim to break it down into pieces to reach a better understanding.

## MATERIALS AND METHODS

The researchers used PubMed database for relevant articles selection process, and the following keys were used in the mesh ((“substance abuse"[Mesh] OR "Substance use disorders"[Mesh] OR "cocaine"[Mesh] OR "opioids"[Mesh] OR "alcohol"[Mesh]) AND (“Diagnosis"[Mesh] OR "Management"[Mesh] OR "Risk factors"[Mesh])). Regarding the inclusion criteria, the articles were chosen according to the inclusion of one of the following: ectopic pregnancy or ectopic pregnancy risk factors, evaluation, diagnosis, and management.

Exclusion criteria were all other articles that did not meet the criteria by not having any of the inclusion criteria results in their topic.

*Review*

The substances meant in this paper are any psychoactive compound that can cause health and social issues, including but not limited to addiction. In **Table 1**, classification of the most commonly used substance, and their forms, according to their pharmacological and behavioral effects (McLellan, 2017).

**Table 1.** Classification of most Commonly Misused Substance

| Class | Forms |
|---|---|
| Alcohol | Beer, wine, and spirits |
| Nicotine | Cigarettes, cigars, shisha, vape, and chewing tobacco |
| Cannabinoids | Marijuana and hashish |
| Opioids | Heroin, oxycodone, methadone, and Vicodin |
| Depressants | Benzodiazepines, and Barbiturates |
| Stimulants | Amphetamine, methamphetamine, and cocaine |
| Hallucinogens | MDMA, psychedelic mushrooms, and LSD |

*Risk factors*

The risk of being dependent on any substance is affected by genetic and environmental factors, where the genetic factor represents a percentage of 40% to 70%. The remaining factors can be generally classified into inter-environmental and intra-environmental factors. Where the former involves easy access or inexpensive substances, target advertising to youth, weak parental monitoring and guidance, and household inner conflict. On the other hand, proper parental monitoring and the presence of healthy recreational and social activities are evident protective factors (Goldman *et al.*, 2005). Intra-environmental factors include positive family background of substance use, family background of mental disorders, concurrent mental health problem, low engagement in school, and a history of abuse. Thence, protective factors comprise of better engagement in school and development of sound coping skills for previous traumas (Goldman *et al.*, 2005).

*Clinical manifestations and patient approach*

Screening tests are not usually done unless there are alarming signs. Hence it is dedicated to certain populations and groups. The general practitioner should always shed light on social habits and stay vigilant when any changes happen. Alcohol consumption may be socially accepted in many parts of the world; therefore, direct questioning about it generally would not cause any inconvenience for the patient. However, in Saudi Arabia, alcohol is criminalized by the law and social norms. Therefore, more delicate question and a less subtle introduction of the topic is preferred. Asking about the rapid and speedy effective, emotional state changes can start the lead; effective liability. Impulsivity and poor control and judgment are also related to alcohol abuse and dependence (Simons *et al.*, 2009). Nicotine consumption is relatively easier to ask about. Further discussion with the patient about the available options to start the quitting journey should be expanded during the visit. Vaping is a rising trend, especially among adolescents, thus a dedicated questions should be asked as the general population think it is safe to use, early usage and nicotine addiction could be correlated to future cannabinoids addiction (Jones & Salzman, 2020). The apparent symptoms of nicotine are more visible in the withdrawal phase, they include irritability, anxiety, low mood, difficulty concentrating, increased appetite, and insomnia (McLaughlin *et al.*, 2015; Bafageeh & Abdelaziza, 2019).

Cannabinoid users' symptoms can be divided into short-term and long-term; the former is usually is harder to detect as it is periodic and present upon use only. Moreover, the long-term effects should be the main focus of doctors who suspect substance abuse, poor educational and career outcomes, cognitive impairment, and decreased life satisfaction are prominent in those who are using cannabinoids products continuously (Volkow *et al.*, 2014). Opioids misuse sometimes starts by taking them legally for pain management. The burden here falls on the shoulders of the care providers as they should pay attention to any alarming signs the patient may exhibit, for example, forgetting their prescriptions, hoarding, running us earlier than anticipated, an unauthorized increase of dosage (Brady *et al.*, 2016). Moreover, off-label use of opioids is also present, especially heroin. The most noticeable feature of opioid dependence is that it shows withdrawal symptoms very early, including restlessness, insomnia, diarrhea, muscle cramps, and bone pain. Blood-borne diseases are also common in those who use heroin injection, such as hepatitis B and HIV, and that may be the first lead toward the dependence diagnosis (Hosztafi, 2011). Cocaine and other stimulant users tend to show behavioral changes manifested as aggression, repetitive mannerism, and sudden social or promiscuous behavior (Tang, *et al.*, 2009).

*Evaluation*

*Questioner screening*

CAGE-AID tool, which CAGE stands for an acronym of four letters from the questions on alcohol along to "AID" which is Adapting the questions to include other drug, can predict the presence of problematic use of substances; Box 1 includes all of the four questions (Brown *et al.*, 1998). CAGE has good reliability and fair correlation compared to other comprehensive screening tools and also provide an early opportunity to prevent further related morbidity (Aertgeerts *et al.*, 2004; Fleming & MANwELL, 1999). Each question is answered with yes or no, where yes equals one and no equals zero. A score of two or more indicates a significant problem.

Box 1. CAGE-AID questioner
1. Have you ever felt you ought to **c**ut down on your drinking or drug use?
2. Have people **a**nnoyed you by criticizing your drinking or drug use?
3. Have you felt bad or **g**uilty about your drinking or drug use?
4. Have you ever had a drink or used drugs first thing in the morning to steady your nerves or to get rid of a hangover (**e**ye-opener)?

*Laboratory screening*

Urine drug testing is most commonly used because it provides results of hours to days. This modality is prone to tampering; thus, random checks in the recovery phase or switching with other modalities are recommended. Alcohol, benzodiazepines,

amphetamines, opioids, cannabinoids, and cocaine can be detected in urine samples (Turner *et al.*, 2014; Owen *et al.*, 2012). On the other hand, hair testing for detecting substance use provides a more cohesive profile that ranges from four to twelve months. Cocaine, amphetamines, opioids, and MDMA, along with substances, can be detected through hair samples (Gryczynski *et al.*, 2014).

*Psychiatric diagnosis*

The Diagnostic and Statistical Manual of Mental Disorders DSM-5 proposed eleven items set of observation and signs; see Box 2 for the full list of items. The interpretation of the DSM-5 checklist is that if two to three items were fulfilled, the patient would be classified as mild, four to five is moderate, and six or more is severe (American Psychiatric Association, & American Psychiatric Association, 2013).

Box 2. The statistical and Diagnostic manual of mental disorders DSM-5 substance use disorders:

1. Taking the substance in larger amounts or for longer than you're meant to.
2. Wanting to cut down or stop using the substance but not managing to.
3. Spending a lot of time getting, using, or recovering from use of the substance.
4. Cravings and urges to use the substance.
5. Not managing to do what you should at work, home, or school because of substance use.
6. Continuing to use, even when it causes problems in relationships.
7. Giving up important social, occupational, or recreational activities because of substance use.
8. Using substances again and again, even when it puts you in danger.
9. Continuing to use, even when you know you have a physical or psychological problem that could have been caused or made worse by the substance.
10. Needing more of the substance to get the effect you want (tolerance).
11. Development of withdrawal symptoms, which can be relieved by taking more of the substance.

*Management*

As this problem is multifactorial in its origin, a well-prepared program should be planned by the caregiver, family, society, and the patient. Mutual Help Groups (MHG) are widely spread worldwide and mostly focused on alcoholics and go by the name Alcoholics Anonymous or (AA). Where two or more people usually meet and share their experiences and help each other in their sobriety. MHG meetings are a cost-effective method and show very promising results despite the lack of solid evidence (Kelly & Yeterian, 2011). Cognitive behavioral therapy (CBT) for substance use disorders indicates promising results either as part of treatment strategy or as a standalone method (McHugh *et al.*, 2010). According to a meta-analysis published investigating the efficacy of CBT in different substances, they found that the most who will benefit from this method use cannabinoids followed by cocaine, opioids, and, to a lower extent, poly-substance dependence (Magill & Ray, 2009). The pharmacological treatment is a must in those who are severely dependent and suffer from unbearable withdrawal symptoms, which might be life-threatening; for the sake of this review, the pharmacological option will not be discussed in detail.

## CONCLUSION

The problem of substance use disorders is quite a concern in every community. Yet, there is not enough effort paid in dealing with the aftermath's consequences and preventing the importing of the substances. As a result, we are encouraging the researchers to conduct more investigations into the issue in Saudi Arabia. Preventing the problem from happening is one way to do it. Still, if failed, a proper approach should be taken from all the parties involved, including society and, more importantly, the family, as stigmatization makes it even harder for the patient to seek out help.

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## REFERENCES

Aertgeerts, B., Buntinx, F., & Kester, A. (2004). The value of the CAGE in screening for alcohol abuse and alcohol dependence in general clinical populations: a diagnostic meta-analysis. *Journal of clinical epidemiology*, *57*(1), 30-39. doi:10.1016/S0895-4356(03)00254-3

Al Nahedh, N. (1999). Relapse among substance-abuse patients in Riyadh, Saudi Arabia. *EMHJ-Eastern Mediterranean Health Journal, 5 (2), 241-246*.

American Psychiatric Association, & American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders: DSM-5. *Arlington, VA*.

Bafageeh, W. A., & Abdelaziza, S. A. (2019). Ameliorative Effect of Quercetin and Luteolin Supplements on Histology of Liver and Lungs Intoxicated with Nicotine in Young Rats. *International Journal of Pharmaceutical Research & Allied Sciences*, *8*(2), 129-136.

Brady, K. T., McCauley, J. L., & Back, S. E. (2016). Prescription opioid misuse, abuse, and treatment in the United States: an update. *American Journal of Psychiatry*, *173*(1), 18-26. doi:10.1176/appi.ajp.2015.15020262

Brown, R. L., Leonard, T., Saunders, L. A., & Papasouliotis, O. (1998). The prevalence and detection of substance use disorders among inpatients ages 18 to 49: an opportunity for prevention. *Preventive medicine*, *27*(1), 101-110. doi:10.1006/pmed.1997.0250

Fleming, M., & MANwELL, L. B. (1999). Brief intervention in primary care settings: A primary treatment method for at-risk, problem, and dependent drinkers. *Alcohol Research & Health*, *23*(2), 128-137.

Goldman, D., Oroszi, G., & Ducci, F. (2005). The genetics of addictions: uncovering the genes. *Nature Reviews Genetics*, *6*(7), 521-532. doi:10.1038/nrg1635

Gryczynski, J., Schwartz, R. P., Mitchell, S. G., O'Grady, K. E., & Ondersma, S. J. (2014). Hair drug testing results and self-reported drug use among primary care patients with moderate-risk illicit drug use. *Drug and alcohol dependence*, *141*, 44-50. doi:10.1016/j.drugalcdep.2014.05.001

Hosztafi, S. (2011). Heroin addiction. *Acta Pharmaceutica Hungarica*, *81*(4), 173-183.

Jones, K., & Salzman, G. A. (2020). The vaping epidemic in adolescents. *Missouri medicine*, *117*(1), 56-58.

Kelly, J. F., & Yeterian, J. D. (2011). The role of mutual-help groups in extending the framework of treatment. *Alcohol Research & Health*, *33*(4), 350-355.

Magill, M., & Ray, L. A. (2009). Cognitive-behavioral treatment with adult alcohol and illicit drug users: a meta-analysis of randomized controlled trials. *Journal of studies on alcohol and drugs*, *70*(4), 516-527. doi:10.15288/jsad.2009.70.516

McHugh, R. K., Hearon, B. A., & Otto, M. W. (2010). Cognitive behavioral therapy for substance use disorders. *Psychiatric Clinics*, *33*(3), 511-525. doi:10.1016/j.psc.2010.04.012

McLaughlin, I., Dani, J. A., De Biasi, M. (2015). Nicotine withdrawal. Cu*rrent Topics in Behavioral Neurosciences, 24*, 99-123. doi:10.1007/978-3-319-13482-6_4

McLellan, A. T. (2017). Substance misuse and substance use disorders: why do they matter in healthcare?. *Transactions of the American clinical and climatological association*, *128*, 112-130.

Najafi, M. L., & Nasiri, M. (2019). Review of drug abuse patterns and their association with some individual and social variables among addicts. *Journal of Advanced Pharmacy Education & Research*, *9*(2), 99-101.

Owen, G. T., Burton, A. W., Schade, C. M., & Passik, S. (2012). Urine drug testing: current recommendations and best practices. *Pain Physician*, *15*(3 Suppl), ES119-33.

Saquib, N., Rajab, A. M., Saquib, J., & AlMazrou, A. (2020). Substance use disorders in Saudi Arabia: a scoping review. *Substance abuse treatment, prevention, and policy*, *15*(1), 1-12. doi:10.1186/s13011-020-00285-3

Simons, J. S., Carey, K. B., & Wills, T. A. (2009). Alcohol abuse and dependence symptoms: a multidimensional model of common and specific etiology. *Psychology of Addictive Behaviors*, *23*(3), 415-427. doi:10.1037/a0016003

Tang, Y. L., Kranzler, H. R., Gelernter, J., Farrer, L. A., Pearson, D., & Cubells, J. F. (2009). Transient cocaine-associated behavioral symptoms rated with a new instrument, the scale for assessment of positive symptoms for cocaine-induced psychosis (SAPS-CIP). *American Journal on Addictions*, *18*(5), 339-345. doi:10.3109/10550490903077937

Turner, J. A., Saunders, K., Shortreed, S. M., LeResche, L., Riddell, K., Rapp, S. E., & Von Korff, M. (2014). Chronic opioid therapy urine drug testing in primary care: prevalence and predictors of aberrant results. *Journal of general internal medicine*, *29*(12), 1663-1671. doi:10.1007/s11606-014-3010-y

Volkow, N. D., Baler, R. D., Compton, W. M., & Weiss, S. R. (2014). Adverse health effects of marijuana use. *New England Journal of Medicine*, *370*(23), 2219-2227. doi:10.1056/NEJMra1402309