

# Risk And Causative Factors For Drug Use And Abuse

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## ABSTRACT

In the last few decades, there has been an increasing incidence in the use and abuse of drugs amongst people of diverse age groups and strata of the society, especially in young people. Drug abuse remains a major public health concern globally. All drugs of abuse have varying degrees of harmful effects to the brain and other organ-systems in the body. Aside infections and other health complications, billions of dollars are spent by governments in different countries to combat crime and criminality associated with drug use and abuse, including strategies to stem the cultivation, processing, trafficking, marketing and availability of illicit drugs. These measures will drastically reduce illegal drug production. The use and abuse of drugs usually begin in childhood or the teen years. Certain risk factors may increase the likelihood of an individual abusing drugs, and they include family history, male gender, attention deficit hyperactivity disorder, conduct or antisocial disorder, poor school performance, poor or excessive parenting, peer pressure, among others. The reasons for taking to drugs by young people are multi-faceted, and many of the factors involved are inter-related and intertwined. The review, therefore, discussed the risk and causative factors for drug use and abuse, diagnostic criteria for drug use disorders, classification and varieties of drugs of abuse, drug self-administration, and the health implications of drug use and abuse.

**Keywords:** drug use disorder, drug misuse, escapism, peer pressure, drug self-administration, trafficking

## INTRODUCTION

Drug abuse is a global public health concern (UNODC World Drug Report, 2013). It has ceased to be an urban problem, with drug use disorder (drug abuse and addiction) and its attendant adverse consequences now prevalent in the semi-urban and our rural communities. In the last few decades, there has been an alarming increase in the incidence in addiction to certain drugs amongst people of diverse age groups and strata of the society, especially in young people in Nigeria, as well as other countries of the world. Globally, it is estimated that in 2012, some 243 million people (range: 162 million-324 million) corresponding to some 5.2 % (range: 3.5-7.0 %) of the world population aged 15-64 had used an illicit drug (mainly a substance belonging to the cannabis, opioid, cocaine or the amphetamines) at least once in the previous year (UNODC World Drug Report, 2014). In Nigeria, for instance, 14.3 million people between the ages of 15 and 64 use drugs (NDLEA, 2019). About 10.6 million (14.4 %) Nigerians abuse opioids while 2.4 million youths and adults abuse codeine-based syrup, while another 92,000 individuals are using cocaine (NDLEA, 2019). This suggests that the previous year (2018) prevalence of drug use in Nigeria is more than twice the global average of 5.6 %. These figures are based on a nation-wide drug use survey conducted in Nigeria in 2017 in partnership with the European Union and United Nations Office on Drugs and Crime. The report stated that 4.6 million Nigerians use prescription opioids (e.g., tramadol and cough syrup) for

non-medical purposes. This places Nigeria among the countries with the highest estimates of non-prescription opioid use globally. About 3 million people are dependent on drugs in Nigeria. The data in the study was collected from 38,850 respondents in a national household survey and 9,344 high-risk drug users across the states in Nigeria (Drug Use Survey, 2019). It is estimated that the number of opioid users globally stand at 53 million, up 56 % from previous (2016) estimates (UNODC World Drug Report, 2019), and that opioids are responsible for two thirds of the 585,000 people who died as a result of drug use in 2017. The higher estimates for 2017 are the result of improved knowledge of the extent of drug use from new surveys conducted in India and Nigeria, with both countries among the top 10 populous countries in the world. Globally, 11 million people injected drugs in 2017, of whom 1.4 million live with human immunodeficiency virus (HIV) and 5.6 million with hepatitis C. About 35 million people the world over, up from an earlier estimate of 30.5 million, are estimated to suffer from drug use disorders and who require some medical therapy, while one out of seven (1:7) persons receive treatment (UNODC World Drug Report, 2019). Prevention and treatment continue to fall far short of needs in many parts of the world. This is particularly true in the correctional facilities, where those incarcerated are especially vulnerable to drug use and abuse, and face higher risks of HIV causing AIDS, and hepatitis B or C transmission. This gap represents a major impediment to achieving the Sustainable Development Goals and fulfilling the international community's pledge to leave no one behind (UNODC World Drug Report, 2019).

Synthetic opioids continue to pose a serious threat to health, with overdose deaths rising in North America and trafficking in fentanyl and its analogues expanding in Europe and elsewhere (Pappas, 2017; UNODC World Drug Report, 2019). The opioid crisis that has featured in far fewer headlines, but which equally requires urgent international attention is the non-medical use of the analgesic tramadol, particularly in Africa (UNODC World Drug Report, 2019). The amount of tramadol seized globally reached a record 125 tons in 2017; the limited data available indicate that the tramadol being used for non-medical purposes in Africa is being illicitly manufactured in South Asia and trafficked to the region, as well as to parts of the Middle East. The response to the misuse of tramadol illustrates the difficulties faced by countries in balancing necessary access for medical conditions while curbing abuse with limited resources and health-care systems that are already struggling to cope, and at the same time clamping down on organised crime and trafficking (UNODC World Drug Report, 2019). Drug markets are evolving at an unprecedented speed. The range of substances and combinations available to users has never been wider, and the amounts produced have never been greater (United Nations System Common Position on Drug-Related Matters, 2019). The reasons for the blooming drug markets are complex and diversified. A combination of poverty, limited social and economic opportunities of rural communities, political instability, lack of Government control, and change in strategies for trafficking organisations are responsible for the upsurge in illicit crop cultivation (United Nations System Common Position on Drug-Related Matters, 2019). A multiplicity of factors at the individual, micro and macro levels affect the vulnerability to drug use and its path to harmful use (United Nations System Common Position on Drug-Related Matters, 2019). Opium production and cocaine manufacture remain at record highs. The amounts intercepted are also higher than ever, with the amount of cocaine seized up 74 % over the past decade, compared with a 50 % rise in manufacture during the same period (UNODC World Drug Report, 2019). This suggests that law enforcement efforts have become more effective and that strengthened international cooperation may be helping to increase interception rates. International cooperation has also succeeded in checking the growth in new psychoactive substances (NPS). NPS may be categorised based on their chemical structure, psychoactive properties, biological targets, or by source (plant, synthetic, or combined). The emergence of hundreds of NPS in different countries and territories in the last two decade or so has been phenomenal, and this is quite challenging for public health and drug policies globally (European Drug Report, 2014; UNODC, 2014a, 2015; Madras, 2017). The novelty of NPS, their ambiguous legal status, ability to evade toxicological screening, swift adaptation to legal restrictions, global internet marketing, and scanty public knowledge of their adverse effects are among the key drivers of the twenty-first century (Madras, 2017). Political will and adequate funding remain prerequisites for success in combating drug use, abuse and trafficking (Drug-Free ASEAN, 2000). Efforts by some countries to reduce the production, marketing and availability of illicit drugs by engaging security operatives are highly commendable. Alternative development initiatives and programmes through the provision of other means of livelihood have enabled farmers to abandon cannabis, opium poppy and coca plants bush cultivation and join the licit economy. The result has been a significant decrease in illegal drug production (Drug-Free ASEAN, 2000).

### **Drug Use and Abuse**

Drug use is the occasional or infrequent taking of drugs or alcohol. Drug use does not always progress to addiction; many people occasionally use drugs, alcohol or cigarettes without being addicted (Boyd, 2013). However, drug use always comes with the risk that it might lead to addiction (Boyd, 2013). Drugs of abuse alter the brain's structure and function, resulting in changes that persist long after drug use has ceased. This may explain why drug abusers are at risk for relapse even after long periods of abstinence and despite the potentially devastating consequences (NIDA, 2009). Drug abuse occurs when a person uses drugs regularly in a manner that is not medically approved, either due to strong feelings of wellbeing produced by the drug or due to alteration of perception. The abuse of certain prescription drugs (e.g., opioids, CNS depressants and stimulants) can lead to a variety of adverse health consequences, including addiction. Drug abuse is a complex disorder that affects individuals physically, mentally, socially, biologically and spiritually (Strun, 2020). As such, treatment of such a complex, all-encompassing disorder must be equally all-encompassing (Strun, 2020). Merely treating the biological dependence or addiction is not enough because the underlying causes and effects of the addiction will remain (Strun, 2020). Repetitive or chronic exposure causes wide spread adaptive changes in the brain, and as a result, drug use may be compulsive, and this culminates in addiction. In drug abuse, there is social disapproval of the manner and purpose of drug use. Drugs of abuse include drugs that are employed for medical purposes (e.g., benzodiazepines, opioids, general anaesthetics),

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as well as non-therapeutic agents (e.g. nicotine and ethanol) that are legalised in some parts of the world. Abusers of drugs may take more than one drug (poly drug) at a given time or in a succession. The rationale for poly drug use and associated health risk is probably understood by their users. The combination of ethanol and cocaine alters the metabolism of cocaine, with resultant production of coca ethylene, a more potent compound compared to cocaine, and with a greater cardiac and vascular toxicity. Sequential drug use reduces the adverse effects when the effects of the first drug is wearing off or almost worn out (e.g. the use of benzodiazepines when coming down from stimulants). Drug use has significant acute and chronic effects on the brain. The immediate acute manifestation of drug abuse is the mood alteration, which is the reason for drug use. A rebound negative or depressed phase may be seen with the amphetamines. Persistent or chronic consumption of drugs may progress to dependence/ addiction and tolerance.

### **Drug Misuse**

Drug misuse refers to the use of a drug (or a substance) for a purpose that is not consistent or in tandem with legal or approved medical guidelines (WHO, 2006), especially prescription medicines. It has a negative impact on health or functioning and may take the form of drug dependence, or be part of a wider spectrum of problematic or harmful behaviour (Department of Health, 2006b). Drug misuse includes taking a medicine that has not been prescribed for someone (i.e. taking medicines prescribed for someone else) or taking a medicine above and beyond what has been prescribed or for a prolonged period, or taking a prescription medicine to get 'high' (Coalition for Drug-Free Clermont County, 2019). However, I would rather classify the last case scenario as Mixed Misuse-Abuse. This is because, even though the drug is a prescription medicine, the intent of the user was wrong, as it was designed to explore and obtain a pharmacological effect from the prescribed agent (outside the original purpose for the prescription). For instance, consuming more than 4 g of paracetamol in 24 h (as against 3 - 4 g of paracetamol directed by clinicians) for analgesic or anti-pyretic purpose is drug misuse. Also, is the procurement of medicines by patients from medicine stores or pharmacies for an undiagnosed ailment and without prescription by a qualified and registered medical personnel. A significant percentage of the Nigerian population engage in self-medication and thus commonly misuse drugs, especially the prescription medicines. The reason for this kind of behaviour is not far-fetched. It stems from ignorance on the dangers inherent in self-medication, and also, those who self-medicate believe that it is far cheaper than walking into a healthcare facility to seek medical care. This is aggravated by the progressive and frightening increase in unemployment rate in Nigeria, which stands at 27.1 % as at the second quarter of 2020 (NBS, 2020b), while food inflation stood at 15.48 % which was released in July, 2020 (NBS, 2020c). The mean *per capita* income of the average worker in Nigeria is low, and this is further compounded by a diminished purchasing power of the Nigerian naira. Furthermore, a substantial proportion of the population live miserably below the International Poverty Line (IPL). Those who live below the IPL in Nigeria, 70 % (CIA World FactBook, 2019) live on an average of \$2 (₦832) or less *per day*. However, according to the National Bureau of Statistics (NBS, 2020a), about 40.0 % (4:10 persons or 82.5 million) of Nigerians live below the IPL. This class of the Nigerian citizens live on less than \$1 (₦416) *per day*.

### **Drug Self-Administration**

About 11 million people across the globe inject drugs, of which 1.3 million are living with HIV, 5.5 million with hepatitis C, 1 million with both HIV and hepatitis C (WHO, 2020). Drug self-administration procedures provide a means for studying addiction under controlled conditions in the laboratory. In these procedures, an animal subject or human volunteer performs a response, such as pressing a lever, that delivers a specific dose of a drug, such as cocaine or heroin (Panlilio and Goldberg, 2007). The drug is typically delivered *via* an intravenous catheter, although other routes (e.g. oral, insufflation, inhalation) are sometimes used, particularly with human subjects (Panlilio and Goldberg, 2007). Compared to other models of addiction, these procedures provide the most direct point-to-point correspondence with addictive behaviour that occurs in the natural environment. For this reason, these methods have a high degree of face validity (Panlilio and Goldberg, 2007). The activation of VTA dopamine neurons is sufficient to support illicit drug self-administration and conditioned place preference (Tsai *et al.*, 2009; Adamantidis *et al.*, 2011; Lammelet *et al.*, 2012). Drugs with strong feelings of euphoria have two components to the experience: an initial rapid effect ("buzz or rush") and a more prolonged hedonic effect (the high). The height of the initial effect is dependent on the rapidity of drug penetration to the CNS, where it evokes the effector mechanism (Rang *et al.*, 2019). The ease of administration, absorption, and route of administration and bioavailability of a given drug determines how they are taken by abusers. It is relatively easy to swallow, smoke or snort drugs than employing other routes of administration. Parenteral injection, e.g., inhalation and smoking results in faster absorption and delivery to the brain than *via* the oral route while intravenous injection maximises the bioavailability of the drug (Kim *et al.*, 2013; Rang *et al.*, 2019). Studies with experienced heroin and cocaine users indicated that intra-nasally administered drugs generally provided lower blood concentrations of drugs and a slower onset of action relative to intravenous route; however, intranasal doses are easily manipulated by the user and adequate bioavailability and desired drug effects can be achieved (Cone, 1998). Amongst the opioids, heroin has a much higher demand than any other opioids due to its high abuse potential (greater capacity and rapidity to penetrate the CNS). The pharmacokinetic properties of a drug that dispose the user to increased self-administration, include rapid absorption and entry into the CNS, high bioavailability, short half-life, small volume of distribution, and high free drug clearance. The pharmacokinetic properties associated with drug dependence are a long half-life, low free drug clearance, and presence of the drug at high enough concentrations and for a sufficient time to permit the development of tolerance (Kim *et al.*, 2013). Drug kinetics and dynamics play a crucial role in the prediction of dependence and abuse potential of drugs.

### Diagnostic Criteria for Drug Use Disorders

- Health complication following drug use
- Wanting to cut down or stop using drugs, but unable to do so
- Inability to carry out important day-to-day activities
- Using drugs in large amounts or for longer periods than actually intended
- Spending a lot of time to procure, use and recover from drug use
- Failure to fulfill important personal commitments
- Abuse of drugs in physically hazardous situations.
- Legal problems relating to drug abuse.
- Problem relating to other people due to abuse.
- Intense cravings for drugs or alcohol
- Increasing tolerance
- Withdrawal symptoms ensue on stopping drugs.

### Classification of Drugs of Abuse

People can abuse any drugs or substances whose ingestion evokes a euphoric feeling (Edwards and Stoppler, 2020).

- Sedative-Hypnotics

The sedative-hypnotics are a group of CNS depressants, which inhibit all the brain faculties (Mandal, 2019). These agents include sleeping pills (benzodiazepines and barbiturates) and heroin (diamorphine or diacetylmorphine), both of the drugs have a potential for dependence and addiction.

- Opioids

Opium and the opioid group of drugs from the poppy plant (opiates) are the second most common drugs of abuse in Nigeria after marijuana. The most frequently used opioid in the UK is heroin, while in the United States and Nigeria, it is the synthetic opioids (e.g. fentanyl), and natural cum synthetic opioids (e.g. codeine and tramadol) respectively. Heroin, a semi-synthetic opioid, is extremely potent and enters the blood-brain-barrier much more readily than does its parent, morphine, and in the brain, it is converted to morphine (Greenstein, 2009).

- Stimulants

Drugs in this group stimulate the brain, giving rise to alertness and increased bursts of activity. There is a rapid heart rate, dilated pupils, raised blood pressure, nausea or vomiting and behavioural changes such as agitation, and impaired judgement. In severe cases, delusional psychosis can occur with the use of cocaine and the amphetamines (Mandal, 2019).

- Hallucinogens

These agents cause hallucinations (auditory, visual, audio-visual and tactile) and an 'out of the world' feeling of dissociation from oneself. Hallucinogens may cause distorted sensory perception, delusion, paranoia, as well as depression (Mandal, 2019), and are described as psychotomimetic (psychosis inducing). Examples include ecstasy (MDMA: 3,4-Methylenedioxymethamphetamine), psilocybin (magic mushroom), mescaline and lysergic acid diethylamide (LSD). Others include the dissociative anaesthetic agents, such as ketamine, phencyclidine and dextromethorphan, which cause a feeling of separation of mind and body (Luscher, 2015).

- Marijuana

Marijuana comes from the plant *Cannabis sativa*, and is the most commonly used illicit drug in the world, including Nigeria. About 141 million people worldwide consume cannabis (Mandal, 2019). The active ingredient in the plant, delta-9-tetrahydrocannabinol (THC), is associated with intoxication. Marijuana resin, called hashish, contains an even higher concentration of THC (Edwards and Stoppler, 2020). The drug is usually smoked, but it can also be eaten. The smoke irritates the lungs and contains more cancer-causing (carcinogen) chemicals than tobacco smoke. Common effects of marijuana use include pleasure, relaxation, and impaired coordination and memory. Marijuana is usually the first illegal drug used by people, and is associated with increased risk of progressing to the use of more powerful and dangerous drugs such as cocaine and heroin. The risk for progressing to cocaine use is 104 times higher if an individual has smoked marijuana at least once than when someone has never smoked marijuana (Edwards and Stoppler, 2020).

- Inhalants

In this category are solvents which emit vapours, causing intoxication when breathed in (inhaled). Individuals who abuse inhalants (household cleaners, glue sniffing etc.) intentionally inhale the vapours, either directly from a container, from a bag in which such a substance is in, or from a rag soaked with the substance, and then placed over the mouth or nose. Inhalant intoxication occurs very fast, but lasts for a short period of time (Edwards and Stoppler, 2020).



- Steroids

Steroids include testosterone, which is the natural male hormone. Others are the synthetic forms, which are derivatives of testosterone (e.g. androstenedione, nandrolone, methandrosteolone and stanozolol). The anabolic steroids are often abused by athletes and bodybuilders to increase the muscle mass, improve performance and oxygen delivery to the muscles in sporting activities. Anabolic steroids predispose to neuropsychiatric problems, such as dependence on drugs, mood swings, and the abuse of other drugs (Edwards and Stoppler, 2020).

- New Psychoactive Substances

The new psychoactive substances (NPS) are a heterogeneous and rapidly evolving class of molecules available on the global illicit drug market as a substitute for controlled substances (Miliano *et al.*, 2016). The use of NPS, mainly consumed along with other drugs of abuse and/or alcohol, has resulted in a significantly growing number of mortality and emergency admissions for overdoses (EMCDDA-European Drug Report, 2014; UNODC, 2014b). The chemical structure (phenethylamines, piperazines, cathinones, tryptamines, synthetic cannabinoids) of NPS and their pharmacological and clinical effects (hallucinogenic, anaesthetic, dissociative, depressant) help to classify them into different categories. Studies have shown that 50 % of newly identified NPS have been classified as synthetic cannabinoids followed by new phenethylamines (17 %) (UNODC, 2014b). In addition to the peripheral toxicological effects, many NPS seem to have addictive properties (Miliano *et al.*, 2016). Earlier studies show that the use of NPS occurs among students, clubbers, psychonauts, prisoners, and parenteral drug users. Motivations for use of NPS include their legal status (uncontrolled), availability, and cost, as well as the desire to avoid detection and user preferences for specific pharmacological effect (González *et al.*, 2013; Helander *et al.*, 2013, 2014; EMCDDA-European Drug Report, 2015a; EMCDDA New Psychoactive Substances in Europe, 2015b).

### Risk Factors for Drug Abuse

The use and abuse of drugs, especially illicit drugs usually begin in childhood or the teen years (Edwards and Stoppler, 2020). Certain risk factors may increase someone's likelihood of abusing drugs. They include the following:

- Family history: Factors that influence a child's early development have been shown to be related to an increased risk of drug abuse, such as:
  - i. Chaotic home environment (e.g. frequent quarrels, domestic violence, separation and divorce).
  - ii. Ineffective (poor/ total lack of) and excessive parenting
  - iii. Lack of nurturing and parental attachment
  - iv. Parental drug use or addiction
- Other risk factors for drug abuse are related to the addict, and they include:
  - i. Male gender
  - ii. Childhood attention deficit hyperactivity disorder
  - iii. History of anxiety or other mood disorders
  - iv. Conduct disorder or antisocial personality disorder
- Factors related to a child's socialisation outside the family may also increase the risk of drug abuse, including:
  - i. Inappropriately aggressive or shy behaviour in the classroom
  - ii. Poor social coping skills
  - iii. Poor school performance
  - iv. Association with a deviant peer group or isolating oneself from peers altogether
  - v. Perception of approval of drug-use behaviour

### Causative Factors for Drug Abuse

Most people who engage in drugs do it willingly, and they start early in life, usually during childhood or adolescence (i.e., teen age). The reasons for taking to drugs by young people are multi-faceted, and many of the factors involved are inter-related and intertwined (Pillai, 2002). Some of the causative factors for drug abuse include, but not limited to the following:

- Curiosity

Young people start taking drugs just to know how and what it feels like. Peer group pressure may also play a role, especially with drugs such as alcohol and cannabis, which may be socially acceptable in some climes. This may in turn trigger a desire to identify with a group with the common interest of drug taking and there may be a rebellion against accepted values (Greenstein, 2009). Many young people want to try drugs just to satisfy their curiosity. They have a penchant for experiment with anything that is mysterious, dangerous and illegal (Pillai, 2002).

- Escapism

Stress precipitates drug use or contributes to drug susceptibility (Wise, 1996). Some individuals take to drugs in order to relieve the tension and worries of life or to generate more energy and confidence (Greenstein, 2009). Many people are faced with the ups and downs of everyday life, and some persons look for a prop to help them. This may include seeking for advice from friends, clergy or embarking on a holiday, and so on. This is a 'chemical way out' of any difficult or unpleasant situation, and by altering the psychological state with drugs has partially escaped from reality (Greenstein, 2009). This protocol only provides a temporary relief, and can cause serious health problems in the course of time.

- Genetics

It has been hypothesised that individuals who are addicted to drugs and alcohol differ in their genetic and biochemical composition from those that do not engage in chronic drug consumption (Greenstein, 2009). Research has demonstrated that susceptibility to drug dependence is an inherited trait with many culprit candidate genes, especially the genes involved in transmitter metabolism, receptors, among others (Mayer and Holtt, 2005). It is widely believed that variants of many different genes each contribute to the overall susceptibility of an individual to drug addiction.

- Availability

The availability and price of drugs of abuse determine the amount and the pattern of dependence and addiction. For instance, in countries where alcohol is cheap, like in France and South Africa, the incidence of alcoholism and liver cirrhosis is high (Greenstein, 2009).

- Work pressure

It is known that people that work for long hours and engage in laborious jobs turn to some drugs to provide them with energy. This is common among miners in the Latin American countries, who eat coca leaves to obtain energy. In high-pressure financial institutions and the entertainment industry, cocaine and other illicit drugs are used by these industry workers. Doctors and nurses have been tempted to use stimulant drugs due to stresses and pressure of work, which demands long hours and the easy access to drugs in the hospital. The emotional concerns of managing ill and debilitated patients can compel health-care personnel to use drugs.

- Accidental

This is a situation where an accidental drug user is introduced and lured into drugs by a friend, relative or a trusted person. The individual may not be aware of what he or she is getting into, until he or she becomes hooked and addicted to drugs (Pillai, 2002).

### Consequences of Drug Abuse

Drug use continues to exact a significant toll, with valuable human lives and productive years of many individuals being lost. An estimated 183,000 (range: 95,000-226,000) drug-related deaths were reported in 2012. That figure corresponds to a mortality rate of 40.0 (range: 20.8-49.3) deaths per million among the population aged 15-64 (UNODC World Drug Report, 2014). All drugs of abuse have varying degrees of harmful effects to the brain (respiratory depression in overdose) and the nasal septum (where it causes necrosis) due to chronic use of cocaine (Rang *et al.*, 2019). Numerous adverse health-related harms are associated with illicit drug use, e.g., cutaneous injection-related infections (Takahashi *et al.*, 2003, 2007). HIV, hepatitis and other infections can occur from sharing of needles. Aside infections, cancers and other health complications, billions of dollars are spent by governments in different countries to combat crime and criminality associated with drug use, including the cultivation and trafficking of illicit drugs and other substances. Of all the drugs of abuse, ethanol, heroin and cocaine were regarded as the most harmful, while cannabis, LSD and ecstasy are less harmful (Nutt *et al.*, 2010). The complications of drug use and abuse include:

- Dependence and addiction
- Vehicle accidents
- Unprotected sex/ rape
- Violence, including domestic violence
- Depression and suicide
- Diseases such as HIV and AIDS, hepatitis B or C, sepsis, cirrhosis, lung cancer.
- Conduct or antisocial behaviour
- Homicides
- Delusion and other psychotic symptoms
- Dysthymia (dysthymic disorder)—a persistent depressive disorder; a continuous, long-term or chronic form of depression, which manifests thus: anorexia or excessive appetite, sleep disorders, poor or lack of concentration, low self-esteem, hopelessness, lack of productivity, loss of interest in the activities of daily living, and a general feeling of inadequacy.

## Conclusions

Drug use, abuse and misuse result in huge costs on the part of abusers, governments and other non-governmental stakeholder organisations involved in the fight against drug abuse, as well as morbidity and mortality. Poisoning or overdose, and deaths are typically caused by high scale binge drinking and/or the consumption of a combination of agents *viz.* alcohol, sedative-hypnotics, and opioids, which cause severe depressant effects on critical CNS regions, especially the reticular activating system in the brain stem. The risk factors and catalyst for drug abuse are: availability and easy access to cheap alcohol and other drugs of abuse in the environment (e.g., France and South Africa), heavy advertising of these products, poor parental monitoring, family history of drug use and abuse or mental disorders, a current mental health challenge, poor school performance, a history of child abuse and neglect, and high levels of family conflict, including battery, domestic violence, and separation/divorce. The reasons for taking to drugs by young people are manifold and multi-faceted, and many of the factors involved are inter-related and intertwined. They include, but not limited to genetic and environmental factors.

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## Conflicts of Interest

The authors declare that there was no conflicts of interest in the work.

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