

## REVIEW ARTICLE

## DRUG ABUSE: A MEDICOLEGAL ASPECT

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## ABSTRACT

Drug abuse is an improper use of a therapeutic or non therapeutic drug resulting impulses to use that leads to significant problems or distress. Drug dependence is used to cover both drugs of addiction i.e. which cause both psychological and physiological dependence, as well as drugs which only cause habit formation i.e., which cause only psychological dependence. A part from medical problems drug abuse is a constant threat to family, society, nation and the world. This paper will aim to explore its different definitions and related issues.

**Keywords:** Drug abuse, Dependence, Addiction.

## INTRODUCTION

Drug abuse is a major medical problem with extensive legal, social, moral, ethical and even political problems. Due to the growth of transportation, tourism and communications and giving the economic rewards for producing and transporting drugs, it is not surprising that they are available almost all over the world. Crime related to drug abuse is mostly non-violent and often petty. Economic-compulsive crime to obtain drugs, such as theft and burglary, is more common than violent drug-induced assault. However, the impact of illicit drugs, crime and violence is highly damaging to local communities at the micro social level, as members of those communities have to live in the midst of illicit drug markets, where crime and violence, and the threat of crime and violence, are ever present.

## Different terminology

**Drug abuse:** arises out of a maladaptive pattern of substance use, manifested by recurrent and significant adverse consequences related to the repeated intake of the substance. These problems must occur recurrently during the same 12 months period. The criteria do not include tolerance, withdrawal, or a pattern of compulsive use, and instead include only the harmful consequences of repeated use.<sup>1</sup> Drug abuse can lead to drug dependence or addiction. People who use drugs for pain relief may become dependent, although this is rare in those who don't have a history of addiction. The use of none medically useful or illegal drugs is usually called drug abuse; even the use is moderate and leads to no harm. Substance abuse will be more accurate which includes: non narcotic drugs like hypnotic, stimulants like amphetamines, cocaine etc, non narcotic analgesics, tranquilizers and hallucinogens.<sup>2</sup>

**Drug dependence:** arises out of a maladaptive pattern of substance use, leading to a cluster of behavioral, cognitive and psychological phenomenon that develops after repeated intake. It includes a strong desire to take the drug, difficulties in controlling its use, persisting in its use despite harmful consequences, a higher priority given to drug use than to other activities and obligations, increased

tolerance, and sometimes a physical withdrawal state. It includes both the terms "addiction" and "habituation".<sup>1</sup>

**Addiction:** defined as a chronic, relapsing disorder characterized by compulsion to take a drug (craving) resulting in physical, psychological and social harm, and continued use despite evidence of that harm.<sup>1</sup>

**Drug habituation:** is a condition resulting from the repeated consumption of a drug, in which there is psychological or emotional dependency on the drug.<sup>1</sup>

Physical dependence is a biological phenomenon which depends on the type, dose, and duration of drug use irrespective of the personnel factors and associated with withdrawal syndrome where as psychological dependence (drug habituation) is a condition resulting from the repeated consumption of a drug, in which there is a psychological or emotional dependency. Caffeine and nicotine are most common habit forming drugs.<sup>1</sup>

The WHO has established the following types of drug dependence<sup>1-3</sup>:

**Morphine type:** There is over powering desire to continue the drug and to collect it by any means and tends to increase the dose due to development of tolerance. The withdrawal effects start (particularly of heroine) within 8 hours and slowly subsides by 48 to 72hours.



Figure1: Unripe poppy capsule from where opium is extracted

**Barbiturate type:** Desire to continue the drug is strong, and the tendency to increase the dose is partly due to tolerance. Cross tolerance to alcohol present and together they make a powerful and potentially lethal combination. Withdrawal effects become peak by 2 to 3 days and subside slowly.

**Cocaine type:** Desire to procure the drug is overpowering, but tolerance is absent. There is psycho dependence on the drug and no withdrawal symptoms.



Figure 2: Cocaine powder

**Cannabis type:** Desire is present with no tolerance or no tendency to increase the dose. Develop psycho dependence and there is no abstinence syndrome. There is a danger of addiction to other and more dangerous drugs. Under its influence the addict may injure himself or cause harm to others.



Figure 3: Cannabis plant

**Amphetamine type:** Desire is present, develops tendency to increase the dose and tolerance. Dependence is psychic and there is no abstinence syndrome.

#### Three types of drugs producing addiction<sup>4</sup>:

**Stimulants:** sympathomimetics like ephedrine and amphetamines. Some common names are Black bombers, Purple Heart, French blue and black Beauties.

**Depressants:** hypnotics like barbiturates and mandrex. The chief narcotic is opium and its derivatives, especially morphine or its synthetic substitutes.

**Drugs used for distorting senses:** Inebriants like alcohol and its beverages; deliriant like cocaine, cannabis, hallucinogens like LSD.

#### Types of drug users<sup>5</sup>:

**Occasional or moderate or social drug users:** related to occasional uses of alcohol, tobacco or cannabis in some societies

**Heavy users:** are addicted or dependent on some drug and cannot do without the same. For them, to be 'normal', the drug should always present in their blood.

#### Factors which are related to drug dependence<sup>5</sup>

**Personal factor:** physical and mental illness, user's personality, tolerance, threshold to different odds of life e.g. failure in achievements, love affairs, stressful events, sense of responsibility to himself, his family and the society, his emotional trends, habits, mental make-up, compulsive psycho-educational status and working engagements all may have to contribute towards indulgence to drugs.

**Social and environment factor:** include family status, family environment, happenings in the family, family liability, attachment with the family, social and mental status of his friends and associates, environment in school/college, hostel, his capacity to meet social bindings and obligations, residential and working environment.

**Drug factor:** On repeated use, some of the drugs cause psychological dependence, some physical dependence and some both.

#### Important consequences of drug dependence<sup>6</sup>

Daily intake of drugs requires money to buy the same from any source making

Male indulge in thefts, forgery, etc for money

Female may take up prostitution as easiest way to get money

Food, personal hygiene, clothing are often neglected and a person may appear- deshelled, unkept, unshaven, dirty, etc.

Children who take drugs may show following signs. A change in the friends, withdrawn behavior, long unexplained periods away from home, lying, stealing, involvement with law, problems with family relations acting drunk or high, confused, impossible to understand, distinct changes in behavior and normal attitude and decreased school performance.<sup>1,4,7</sup>

#### Route of drug trafficking

In the nineteenth century drugs tended to only be available where they were produced, or very close to the source of production. However, the growth of transportation, tourism, and communications in the twentieth century has made it possible to transport goods and people quickly to any part of the world. Given the economic rewards of producing and transporting drugs, it is not surprising that they are available almost all over the world. Drugs too, are being transported to distant places.

Two methods Body stuffer (act of swallowing of a container such as balloon, plastic bag, and condom etc. while arrested during smuggling to conceal the material evidences from the authorities) and Body packer (act of swallowing containers like balloons, plastic bags or condoms filled up with illegal drugs for the purpose of smuggling from one country to the other and after reaching the destination the smugglers usually defecate the containers using laxative or rectal suppositories or enema) are very much in use to conceal the process of trafficking.<sup>1</sup>

Transit of traffic of drugs is still significant through the Golden Triangle which includes Myanmar (Burma), Thailand, Laos and adjoining part of China and through the Golden Crescent which include Pakistan, Afghanistan and Iran. Golden Quadrangle is also an important part in drug trafficking in India which includes Varanasi, Lucknow, Bareilly, Barabanki and Badaawn districts of UP and adjoining parts of Rajasthan, M.P. including parts of southern, eastern and north-east zone of India.<sup>2</sup>

Nepal is fast becoming "a major transit point" for illegal drugs trade.<sup>8</sup> Narcotics were made illegal in Nepal only in 1978, before which the country was a hub for hippie travelers to indulge in drugs.<sup>9</sup> Although Nepal is not a big producer of hashish, opium and marijuana, its geographic position has made it a favorite destination for international drug traffickers. Narconon, an international anti-drug organisations, estimates that the country has about 150,000 drug addicts, 64 per cent under the age of 30. A Nepali police report said that in 2011 thousands of poor and unemployed Nepalis have become drug couriers to feed their families. Women and children are especially chosen by traffickers to carry shipments abroad.<sup>10</sup>

## DISCUSSION

Globally cannabis is probably the most widespread and commonly used illicit drug. The United Nations International Drug Control Programme have estimated the number of cannabis users world-wide to be 141 million people.<sup>11</sup> In most countries rates of cannabis use are generally higher in younger adults, and higher amongst males than females. In the United States in 1996 45% of 12th Graders (ages 16-18 years) reported ever using cannabis and 36% reported recent use (in the previous twelve months) of the drug.<sup>12</sup> Studies in India have shown lifetime prevalence of cannabis use of 3%.<sup>13</sup>

Cocaine and its derivative "crack" cocaine provide an example of both the globalization of substance use and the cyclical nature of drug epidemics. In Mexico City use of cocaine among high school students shows a slow but steady increase from 0.9% lifetime prevalence in 1976 to 1.66% in 1993.<sup>14,15</sup>

The available evidence shows that there has been a global increase in the production, transportation and consumption of opioids, mainly heroin.<sup>16-18</sup> The estimated world-wide production of heroin has more than doubled or even tripled since 1985.<sup>17,18</sup> Drug injection has become widespread in some countries of south east Asia where earlier patterns of opium smoking have been replaced first by heroin smoking and then by heroin injection.<sup>19</sup> Since heroin is commonly used by injecting, the health risks including that of HIV and hepatitis transmission, are substantial. The shared use of injection equipment has played a critical role in fuelling a number of local, national and regional HIV-1 epidemics. HIV-1 prevalence is high in drug injecting populations in southern Europe, the north east of the United States, parts of Asia and parts of South America.<sup>20,21</sup>

Next to tobacco, alcohol is the most widely used and abused substance and is available in all but the most isolated areas of the world or in a few countries with strict religious prohibitions. Although alcohol consumption has recently declined in many developed countries<sup>22,23</sup>, its use has been increasing in developing<sup>24</sup>.

A number of drugs used commonly for their therapeutic efficacy in health care are also being abused all over the world. These include barbiturates, benzodiazepines, other sedatives and some stimulant drugs.<sup>25,26</sup> The epidemiology of this use is difficult to study, because of difficulties in distinguishing medical and non-medical use.

The basic relationship between drug use and crime is simple. It is illegal to possess, manufacture or distribute drugs with the potential for abuse. However, discovering how crime is related to drug use is much more complicated. It is difficult to count offenses of violent behavior resulting from drug effects, stealing to buy drugs, or violence associated with the drug trade as much of what transpires is undocumented. Methamphetamine users were significantly more likely than heroin users to have committed violent crime.<sup>27</sup> Study indicates that in comparison with other drug users, meth users are more likely to be under the influence of either drugs or alcohol at the time of arrest and meth users were also more likely to indicate that their crimes were related to drug use.<sup>28</sup> In the U.S. several jurisdictions have reported that benzodiazepine misuse by criminal detainees has surpassed that of opiates.<sup>29</sup> Flunitrazepam has been implicated as the cause of one serial killer's violent rampage, triggering off extreme aggression.<sup>30</sup> Study shown that probationers previously convicted of violent crimes were more likely to abuse substances, engage in criminal activity and have other mental health symptoms.<sup>31</sup>

Substance abuse is also a major predictive suicide risk factor. A study of 129 young people aged 18 to 24 who made serious suicide attempts in Christchurch found that at the time 31% had symptoms of alcohol abuse/dependence and 12% had symptoms of cannabis abuse/dependence (vs. 16% and 3% respectively in a control sample).<sup>32</sup>

Investigation of a drug abuse death<sup>1,7</sup> is a difficult task for a medical person whenever he or she gets the opportunity to investigate a case of addicted death. Addicts often die from complication like accidents while under the influence of drugs; or may commit suicide or homicide or other sexual offences which may result death needing the help of professional expert in the field of investigation.

### Investigation of a drug abuse death (at the scene of crime)

Dead person's clothes and the belongings, to check for needle, syringe and tourniquet, photographs of the scene are to be taken and to search for any drugs etc, should preserve if found. Specific precautions are to be taken for prevention of infectious diseases like HIV, Hepatitis B etc during the conduct of autopsy. Body is to look for any caches of drugs that may be in orifices etc.

The autopsy includes both external and internal examination<sup>1,2</sup>:

**External examination:** Wasting and signs of self neglect, body may be tattooed to hide scars (railroad tracks), stains at tips of fingers, needle track scars, fibrosed veins, recent injection sites may show zones of inflammation. Regional lymph nodes may be enlarged. Look for the perforation of nasal septum. Froth may be at mouth nose. Vaginal swabs are to be taken for laboratory examination.

**Internal examination:** G.I.T. may contain pills/capsules like that of the condom of time bomb, enlarged lymph

nodes, signs of congestion of viscera, hepatosplenomegaly, valvular heart diseases and brain may show edema and focal areas of necrosis due to hypoxia. Viscera blood, urine etc are mandatory to preserve for chemical analysis.

### Treatment cum rehabilitation<sup>1,2,5,6</sup>

Treatment can't take place unless the individual have motivation to undergo treatment. He must come to learn with the possibility of a life without drug. Long term treatment is not only a medical problem, but needs the cooperation of psychologists and sociologists. There is a high relapse rate with all treatment methods.

Though drug addiction may be considered as a social problem, the first step in its management is medical care, which includes:

- Treatment for health resulting from chronic use of drug
- Antidote for prevention of use of the drugs re-addiction
- Stoppage of supply of drugs of addiction
- Treatment of withdrawal symptoms
- Maintenance of adequate food, vitamins, electrolytes etc.
- Post-detoxification counseling and follow-up (based on clinic and home visits)
- Rehabilitation

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