Silent Terrorism

Let's talk about Drugs

Dr. A. Venkadesh Babu

About the Author

Dr. A. Venkadesh Babu, is a social worker in the field of Drug Abuse prevention. He is passionate in creating a Drug free society by sensitising the students/youth across the Nation. He is a holder of Guinness World Record for the Largest Drug Awareness Lesson. At present he is a serving I.R.S. Officer from the Indian Customs and IT Services, Government of India. He had worked in ED and investigated Money Laundering and Hawala cases in several high profile cases. He also worked as the Head of Office of Central Bureau of Narcotics (Preventive and Intelligence cell) Chennai, enforcing NDPS Act 1985. He represented the Country in the ASEAN Regional Forum seminar on "Precursor Chemicals and Synthetic Drugs" organised under the aegis of UNODC (United Nations Office on Drugs and Crimes) held in Bangkok in 2015. He is a recipient of the prestigious Presidential Award and President's Medal for the Specially Distinguished Record of Service announced on the eve of the Republic Day 2022.

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I dedicate this book
to
Every curious teenager

Preface

When I started my awareness speeches against Drug Abuse in schools and colleges I never thought my efforts would blossom into a beautiful book to spread the fragrance of awareness among the youth. The impact of my efforts in the young minds ignited me to embark upon a passionate journey of creating a drug free society. This book is part of my journey in reaching out the youth to make this planet ever beautiful devoid of impulsiveness, delinquent behaviour and juvenile crimes. This book is a compendium of my speeches against drug abuse.

I have written this book keeping in mind what the teens should know about drugs. This book is based on my field experiences, as a social worker and as a Law enforcer, curiosity of the teens whom I interacted with during my awareness sessions, publications of UNODC, research findings of WHO and empirical data from various publications, with a view to encounter the menace of drug abuse.

While conceiving the idea of this book I have taken due care that this book qualifies to be adapted as part of the curriculum by educational institutions, which is my time-honoured desire in accomplishing my mission, of developing a drug free society. Though, this book may not be as thrilling as a fiction, I believe it would contribute in creating a healthy society.

On more than one occasions I have been tempted to take an extended holiday, or drop the book altogether. Each time, it was my consciousness, which brought me back, motivated by my passion of creating a drug free world, showing me the ways in which it might be continued and, in the end, completed.

This book is about what I saw around me and how I saw it. I take responsibility for this book, for any factual errors, and for the mistakes in grammar. Yet, if this book turns out to be readable, it is entirely due to the extraordinarily complex society in which we live.

If this book makes some sense in reversing the curious nature of the youth in resorting to drugs and also in inspiring them to lead a healthy life, then my greediness has no bounds.

So, go on, read, reflect and react.

Dr. A. Venkadesh Babu

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Introduction

Addiction to drugs not only affects the individuals involved but also disrupts the family and society. The menace of drug abuse in the younger generation has been rising all over the world and India is no exception to it. Every year UNODC (United Nations Office on Drugs and Crimes) the drug agency of UN announces a theme. The theme of 2003 was "Let's talk about drugs". It is therefore necessary that every one of us particularly the younger generation needs to know about the various types of drugs of abuse, its physiological effect, its impact on the society and the risks involved in handling the drugs.

Drug abuse and illicit trafficking continue to have a profoundly negative impact on the development and stability of our country. Addiction to Drugs is now recognised globally as one of the real dangers, which the world faces. It damages the individual and society very silently. This "Silent Terrorism" of drug abuse destroys mankind eventually. It is better to lead a healthy life and say No to Drugs.

Factors of Drug Abuse:

Drug abuse is a result of two factors – the availability of drugs (supply) and the psycho-social conditions which result in their abuse (demand). In order to prevent drug abuse a mere supply reduction strategy is not sufficient to effectively control the

These are series of arrest photographs of the same person for abusing drugs over a period of 10 Years.

menace of drug abuse. Therefore, equal emphasis needs to be placed on supply and demand reduction. Supply reduction is the strategy aimed at reducing the supply of illicit drugs by enforcing the drug law of the country. On the other hand, Demand reduction is the strategy by which the demands for the drugs which are being abused are to be reduced by creating awareness about the ill effects of drug abuse. Of these, demand reduction is more productive than supply reduction in the sense as long as demand is there supply finds its way to meet the demand. It is the combination of demand reduction and supply reduction that brings success in containing the drug menace. Demand reduction is an effective tool to reduce supply because when the number of drug users falls, drug supply falls correspondingly as the market for illegal drugs shrinks. This complimentary approach maximizes the impact of the national strategy on illegal drug market and will go a long way in creating a drug free society.

Use of alcohol, tobacco and drugs – referred to as 'substance use' – is associated with a wide range of negative health consequences.

This ranges from injuries, accidents and violence to chronic health problems, such as dependence, cardiovascular diseases, HIV, Hepatitis C and various cancers. Beyond these physical and psychosocial consequences and resulting health-care costs, there are significant social, educational, criminal justice and lost-productivity costs, all of which take a very significant economic toll on communities and societies.

The education sector cannot sidestep its role in addressing this issue. It needs to engage for two main reasons:

1. to support societal efforts to reduce the social and economic costs of substance use; and
2. because substance use among children and young people, as well as the causes behind it, too often stand in the way of the education sector's mission. Substance use, especially harmful use, can affect a young person's well-being, and is clearly linked to academic underachievement (e.g. cognitive functioning, disengaging from school, truancy and early school leaving).

On the other hand, the education sector can play an important role in preventing and addressing substance use. An overview of systematic reviews of existing evidence concludes that,

- For tobacco use, school-based prevention programmes are effective in reducing smoking;
- For alcohol use, school-based prevention programmes are found associated with reduced frequency of drinking; and
- For drug use, school-based interventions based on a combination of social competence and social influence approaches have shown protective effects against drugs, including cannabis use.

There is also a strong understanding of how the education sector can respond effectively to help tackle substance use.

According to UN definitions, an 'adolescent' is regarded as a person between the age of 10–19 years; a 'child' as a person below the age of 18 years, unless under the law applicable to the child, majority is attained earlier; 'young people' are those between the ages of 10 and 24; and 'youth' are those between the ages of 15 and 24 years.

There is a wide range of factors that put children and young people at risk of substance use and its consequences, including their individual attributes and the environment in which they live. Education is a platform that engages children and young people at a crucial stage in their development, and helps them assess and counter such risks and pressures.

The education sector therefore has a fundamental responsibility to protect children and young people from substance use. This means taking steps such as:

- working to ensure that schools are 100% free of tobacco, alcohol and other drugs;
- ensuring the core curriculum includes learning about the risks associated with substance use and facilitates the development of students' personal and social skills relevant to health-seeking behaviours; and
- building the knowledge and skills of educators, parents, caregivers and communities to empower and support children and young people to prevent and address substance use.

All of these steps require the education sector to adopt a comprehensive approach to mobilize the whole system in collaboration with other sectors, in particular the health sector and drug control authorities.

This book has been designed with the objective of sensitising the college students about the ill effects of Drug Abuse and addiction and in strengthening and accelerating the education sector's responses to Drug abuse and thereby reduce the demand for the drugs of abuse to create a drug free society.

Slumbers are no different from the dead
Nor dopers from consumers of poison

Thirukural

Chapter - I

The Narcotic Drugs – Through the Ages

1. Opium – King of Narcotics

The story of opium use dates back to ancient times. Opium is found not only in history but also in romance and crime. Opium has been the cause of murder, war, bitter feelings and punishments. While on the one hand it has relieved humans of their most agonising pains on the other it has reduced them to the level of beasts!

The earliest available references of preparation of opium is seen in clay tablets left by Sumerians dating back to about 5000 B.C. Opium was used as a children's sedative and teething remedy in Egypt as far back as 2000 B.C. The earliest record in medicine Papyrus describes a mixture of opium and another material which was found effective in quietening crying children. Till sometime back children in India, Egypt and even Europe were being soothed with opium. Mothers often used poppy juice, it is said that to smear on their nipples so that the child would immediately stop crying on sucking this drugged milk.

The Greek poet Homer (9th Century B.C) mentions opium in his epics Iliad and Odyssey. The use of a peculiar drug, Nepenthes, also called as the drug of forgetfulness was fairly well-known in Greece. Opium was a major constituent of Nepenthes. It is seen

that Greek warriors regularly took Nepenthes before going to war to dull their senses to dangers.

Strange traits

It is believed that opium increases the duration of the sexual action and therefore it is often used by men who get accustomed to the drug by constant use. It is also used to steady the nerves for performing some bold deeds requiring immense courage. It is said that 'Satis' of the past were fed heavy doses of opium before being asked to ascend their husband's funeral pyre. Rajputs were known to take opium before going to the battlefield. The French naturalist, Belon, wrote in 1546: "Turks eat opium because they think that they thus become more daring and have less fear of the dangers of war. In war time such quantities are purchased that it is difficult to find any left".

Alkaloids of Opium

Raw opium contains several special chemicals known as alkaloids. Alkaloids are very bitter tasting chemicals. A peculiar fact is that the molecules of all alkaloids are ring-shaped and all contain an atom of nitrogen. All alkaloids are poisonous in nature although, when taken in very small quantities they act as valuable drugs. The opium poppy is not the only plant to contain alkaloids. All alkaloids have names ending in ''ine" and in fact that is a very useful way to know whether a chemical is an alkaloid or not. Nature has endowed certain plants with these bitter-tasting alkaloids. No wonder their bitterness keeps animals away from these plants. These alkaloids therefore must be serving the function of defence.

The major alkaloid of opium is morphine which constitutes about 10 to 20 per cent of raw opium. Morphine is a potent suppressor of pain and is a very useful drug in painful conditions. It also induces sleep in no time. Morphine not only brings sleep and

dreams but may cause death when taken in large doses. About 200 mg of morphine is known to cause death.

Isolation of Morphine

Morphine was isolated from raw opium in 1805 by a German pharmacologist, Friedrich Wilhelm Adam Serturner (1783-1841). It was not only the first alkaloid to be extracted from opium but the first ever alkaloid to be isolated from any plant. He tried his discovery (the morphine) first on himself. He also used the morphine crystals in mouse food to kill the mice in his cellar and in dog food to get rid of unwanted dogs in the vicinity. He observed that morphine could evoke sleep and ultimately death in these animals. The discovery of isolation of morphine brought Serturner several honorary doctor's degrees from outstanding Universities as Benefactor of Humanity.

It requires approximately 10 kgs of raw opium to produce 1 kg of morphine. The next most abundant alkaloid in raw opium is narcotine which constitutes about 2 to 8 per cent of the raw opium. Codine constitutes about 0.3 to 4 percent. It has the property of suppressing cough and is a main constituent of many cough mixtures. Papaverine constitutes about 1 per cent. Thebaine constitutes about 0.2 to 0.5 per cent. The five alkaloids make up more than 24 per cent of raw opium. The remaining 1 per cent is made up by the rest of the 20 odd alkaloids which are present in very minute quantities. Quite surprisingly, poppy seeds, known in India, as Khus Khus, are quite innocuous and do not contain any alkaloid. They are the only part of the poppy plant not to contain any alkaloid. Not only are they not poisonous, they are used for flavouring food. They are white in colour, have a pleasing nut-like taste and are sprinkled over some Indian sweets. They have a very high protein content which is largely used for culinary purposes.

Opium is consumed in many ways. Till the last century people ate opium as such. With the discovery of its active constituent Morphine, a way unfolded by which the active constituents, rather than raw opium could be directly taken.

Injecting Morphine

An important milestone came about in 1853, when the French physician, Charles Gabriel Pravaz (1791-1853), invented the first metal syringe provided with a hollow needle. It enabled physicians (and addicts too) to inject morphine directly underneath the skin or in the blood vessels. This produced a better and quicker effect than the ingestion of raw opium. Although as early as 1656, the English Scientist, Sir Christopher Wren (1632-1723) had succeeded in injecting drugs directly into a vein with the help of a hollow quill to which a small animal bladder was attached, this method never really caught on.

Said to be the first syringe used to inject morphine

A Scottish physician, Alexander Wood (1817-1884) was the first to inject morphine directly underneath the skin with the newly developed hypodermic syringe in the very same year that it was invented. (His wife became the first needle addict) His findings

were published in 1855 and the whole world of medicine became aware of it. Soon afterwards, in the American civil war (1861) morphine was widely administered to soldiers, not only to alleviate pain to those wounded in the battle, but also to those suffering from dysentery. As a consequence, a large number of civil war veteran returned to civilian life addicted to the drug, a condition euphemistically referred to as 'army disease 'or' soldier's illnesses.

Heroin: Curse of the Twentieth Century

By this time two facts had clearly emerged: morphine was undoubtedly a potent analgesic (a drug which suppresses pain and other bodily discomforts) and that it was an addictive drug. Thus, whenever morphine was used for killing pain for some time, say a month and the patient invariably become an addict. Addiction was an unavoidable by-product of morphine use.

Scientists tried their best at modifying the molecule of morphine. It was quite possible, they reasoned, that one part of the molecule was responsible for alleviation of pain and some other for producing addiction.

Could they remove, modify or alter the part responsible for producing addiction?

In an attempt to remove the molecule responsible for producing addiction, the German Chemist, Heinrich Dreser, in 1898, treated morphine with an inexpensive and readily available chemical, called acetic anhydride and produced a powerful chemical, diacetyl-morphine. The drug imparted a sense of grandeur and made the user feel like a hero or heroine and that is why he called it heroin (without an 'e', however).

However, at that time heroin was widely acclaimed as an answer to the problem of medical addiction. Leading Scientists

of his time agreed with Dreser that heroin was a potent non-addictive analgesic. Some even used heroin as a medicine for morphine addiction. However, heroin turned out to be a cruel disappointment. It proved to be an even more dangerous drug than morphine as far as addiction was concerned. It led to very strong addiction. The addict tends to languish as long as heroin is not given to him, but once the heroin is injected into his veins, he galvanises into action. It appears as if life has been infused into a corpse.

Some addicts compare the sensation to that of a sexual orgasm! It is important to note here that heroin is not an 'energiser'. A normal, healthy individual will not work better after an injection of heroin. An addict works better after an injection of heroin only because his capacity has already been severely compromised due to addiction. On the whole, the capacity of an addict after an injection is still far less than that of a normal person.

Smoking opium

Before the advent of the hypodermic needle (and even now at many remote places in India), opium was smoked. Smoking of opium was called 'chandu' or 'meddak' and was prepared in a peculiar way in many of our villages. In India opium smoking assumed such monstrous dimensions, that the Government of Bengal had to pass the Bengal Opium Smoking Act in June 1933. It provided for the registration of the existing smokers who had to obtain a permit from the Excise Department. Anyone found smoking without a permit was prosecuted and on conviction had to undergo six months' imprisonment combined with paying a fine.

As a result of recommendations of the Opium Enquiry Committee in Bengal, the limit on the possession of opium by a person was reduced from 11 gm to just 3 to 4 gm. On purchase of an excess quantity say up to 5 gm, one had to obtain a permit

from the Excise Department. These permits were issued only on the certificate of a medical practitioner and in no case a quantity exceeding 5 gm was to be sold to any one consumer. Similar Acts were passed in Bihar and Uttar Pradesh. Now all these Acts have been rescinded by a very wide ranging law, the Narcotic Drugs and Psychotropic Substances Act, 1985, which criminalises not only use of opium but also other narcotics.

Opium Decoctions

Some villagers boil opium in water, just as we boil tea leaves and prepare a decoction. This decoction is called as 'Kasoomba' or 'Amalpani' and it contains about 5 per cent of opium. 'Kasoomba' is sometimes offered to guests on festive occasions. An infusion of Poppy capsules is also habitually drunk by some people in certain districts of Punjab and in parts of Rajasthan, especially Jaipur. 'Bhujri', a preparation made by frying green unripe capsules in butter or ghee, is sometimes eaten by the addict villagers.

When an addict does not get supply of opium (or morphine or heroin or any other related drug), he starts experiencing withdrawal symptoms which are very distressing. Withdrawal symptoms usually occur in three separate stages.

Stage1 starts within four to six hours. In the beginning discomforts is more psychological than physical. Within 8-14 hours, restlessness, perspiring, runny eyes and nose, yawning and sneezing are experienced. These symptoms resemble that of a common cold. From 14 to 24 hours, the symptoms increase and the addict experiences loss of appetite, slight body tremors and a puckered appearance of the skin known as' gooseflesh'. This causes the skin to take on the appearance of a plucked turkey, and hence the origin of the expression 'going cold turkey'. This expression is used for addicts who are experiencing the first stage of withdrawal symptoms.

Stage 2 starts after 24 to 36 hours. The addict experiences insomnia (lack of sleep), vomiting, diarrhoea, weakness and depression, in addition to an intensification of the already present symptoms.

Stage 3 starts after 48 to 78 hours. All the symptoms lead to severe muscular and stomach cramps and tremors and twitching. A rise in temperature and respiration rate ensues along with a worsening of the vomiting and diarrhoea. The involuntary twitching worsens. This is the source of origin for the term 'kicking the habit'. After the addict has passed through all these stages, he feels as if he has gone through a state of 'living hell'. Mainly to avoid this stage, the addict keeps on taking morphine again and again.

Methadone is a related narcotic synthesised by the Germans during World War II, because of the unavailability of morphine. It was named Dolophine after Adolph Hitler (it thus became the first and the only narcotic to be named after a person. The name in turn gave rise to its slang name 'dollys'). It was later used to minimise the discomforts of heroin withdrawal by being administered in small doses for about ten days- a process termed detoxification. In the United States, next to heroin, methadone- the synthetic opiate – is most responsible for addiction and is easily available in the street causing a major problem in its turn. Methadone is normally given as a substitute for heroin to reduce the severity of withdrawal symptoms in addicts undergoing treatment.

2. Cocaine – Love Affair

Cocaine (chemically known as benzoylmethyl ecgonine) is a white, crystalline alkaloid found in the leaves of coca bush (Erythroxylon coca). The coca plant is an evergreen native to South America, particularly the countries of Peru, Bolivia, Brazil, Chile and Colombia and must not be confused with the similar sounding cocoa plant used in manufacture of confectioneries.

Coca plant

Cocaine is extracted from the dried coca leaves illicitly. In one process the dried coca leaves are treated with an acid solution such as sulphuric acid. This produces the coca paste which contains approximately 70 per cent of cocaine. This paste is then treated with hydrochloric acid to produce cocaine hydrochloride. This ultimately finds its way in the streets. This is a time consuming process and may take up to two weeks for completion. In a slightly different method the coca leaf is first treated with a basic solution of potassium carbonate or sodium carbonate. This again produces the coca paste which is then treated with hydrochloric acid in a similar way. This process is less time consuming and is preferred by the illicit manufacturer.

The German Chemist, Friedrich Gaedcke, was the first to isolate cocaine in 1855. Albert Niemann of the University of Gottingen was the first to characterise the substance chemically in 1859. The history of cocaine in America is a vivid one. American Surgeon,

William Steward Halstead (1852-1922), widely known as the Father of modern surgery, reported in 1884 the use of cocaine as an anaesthetic in surgery. He pioneered the use of cocaine injections for administering local anaesthesia, but during the process became addicted to the drug.

The addiction to cocaine acquired such huge dimensions in the USA that in 1914 cocaine was banned under the Harrison Narcotic Act. This Act incidentally also banned the use of opium, morphine and heroin. Yet cocaine use continued clandestinely and in 1920, the drug made headlines when a film-star dies of it after the Chelsea Art Ball.

During the interregnum between World War I and II, there was not much increase in cocaine addiction. But during the period after World War II, especially the 1960s, when the Americans started clamouring for a more permissive society, cocaine posed a serious threat. Even as attempts were afoot to nip the problem in the bud by checking cultivation of coca leaves, the number of cocaine addicts and the subsequent demand for cocaine multiplied. Today there are over six million cocaine addicts in the USA alone. Cocaine has become big business today.

The mechanism of the action of cocaine is not very clear, but some interesting speculations have been made, based on scientific experiments. Within our nervous system, there resides a chemical known as Dopamine. It belongs to a class of chemicals known as neurotransmitters. These are the chemicals which carry messages across the nerves. In a way they are like messenger pigeons. If these messenger pigeons were not there within our nervous system, messages could not get across. They would terminate at the first nerve itself. On the other hand, if there were too many pigeons, too many useless messages would be passed, creating havoc within the nervous system. Our body has an inbuilt mechanism whereby, the concentration of Dopamine

is kept in check. i.e., neither is it allowed to rise, nor fall below a certain optimal level. Cocaine disturbs this mechanism in such a way that the concentration of Dopamine within our nervous system rises. Rise in the level of Dopamine is supposed to be responsible for all the effects of cocaine.

But this theory by no means explains everything. It leaves many questions unanswered. There are some other drugs, which also cause the level of Dopamine to rise within our nervous system, but they do not produce euphoria. Quite evidently the mechanism of action of cocaine has eluded scientists till now, but research on this topic is going on to find an answer.

Illegal Trading

Cocaine is available in the streets illicitly. Just like heroin, cocaine also gets diluted gradually as it travels from the clandestine laboratory to the ultimate user. The process of diluting or 'cutting' cocaine is known as 'stepping on' in the drug underworld. Most traffickers, however, know that unlike heroin, cocaine rapidly loses its potency. Moisture, warmth, air and sunlight decreases the potency of cocaine. Even the 'cutting' or diluting agents have a tendency to destroy cocaine. So the traffickers tend to dispose of diluted cocaine as early as possible. Another difference is that while heroin is diluted up to a final concentration of 5 per cent, cocaine is usually diluted only up to 20 to 40 per cent. The 'cutting' or diluting agents can be any soluble powder that is not disruptive to the body such as baking soda, powdered sugar, powdered milk, starch, etc. Since pure cocaine is also a white crystalline powder, these agents serve as good dilutants. Other agents which are usually employed to 'cut' cocaine are lactose, dextrose, Epsom salts (magnesium sulphate), quinine or powdered vitamins. A dangerous Narcotic, methamphetamine, known as, Speed, is also sometimes used.

Tests for Purity

Most traffickers are told about the percentage of cocaine present in their consignment. Depending on this information, they 'cut' the cocaine further. But this information may not be reliable and many cocaine dealers prefer to use their own methods to test the purity. Considering that most dealers are only illiterate musclemen, it is surprising to see the large battery of fairly accurate tests which they have evolved over the years. There are even cocaine drug testing kits produced by the underground (some are manufactured legally to, for law enforcement purposes). The basic chemical used to detect cocaine is cobalt Thiocyanate. Cocain (or any related chemical such as procaine, lignocaine or tetracaine) will form a brilliant blue flaky precipitate with cobalt thiocyanate. The test can tell whether a given powder is cocaine or not. As we have seen, cocaine might be adulterated with procaine and both will give precipitates with cobalt thiocyanate. To determine whether there is actually any cocaine present or not, stannous chloride is added to the precipitate. It causes all precipitates to dissolve except that formed by cocaine.

A simpler test is the water test which some of the powder is poured in a glass of water. The cocaine dissolves almost immediately leaving the remaining 'cut' which normally dissolves slowly. If the powder is put in a vial of bleach (sodium hypochlorite), the cocaine again dissolves completely but procaine will turn reddish orange, with any other 'cut' settling to the bottom of the vial as residue. This is called the bleach test.

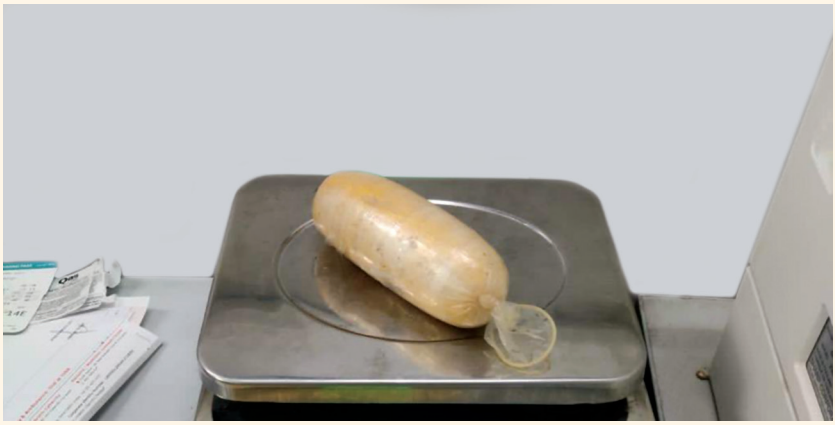
If the powdered cocaine is placed on aluminium foil and held over a low flame or match, the cocaine will burn clear. A sugar 'cut' will darken and burn a dark brown or black; therefore, the larger the 'cut' the darker the burn. Methamphetamine or 'Speed' will pop when burned. Salts do not burn and remain as residues. Procaine burns clear, just like cocaine, but it 'bubbles' before burning clear and can thus be detected.

Many dealers can tell much about the purity of a sample simply by observation. Pure cocaine crystals have a shiny and almost transparent appearance. The crystalline sparkle is retained even when these crystals are crushed. The crystalline sparkle of cocaine is reduced by most diluting agents. Some dealers can tell about the purity by tasting the sample. Cocaine has a bitter taste and the addition of any 'cut' will tend to alter the taste. Lactose (milk sugar) 'cut' will sweeten the cocaine. Dextrose sweetens the cocaine more than lactose. Procaine is bitter to taste but will tend to numb the gums and tongue quicker and for a longer period than cocaine. Salt has an after-taste and Epsom salts are a bit more sour in taste and sandy in texture. Most dealers, however, would test the percentage of cocaine by using it actually, i.e. by inhaling into the nostrils. If the nasal passages burn and the eyes water, 'speed' is suspected. Sugar and salt 'cuts" will increase the nasal secretions and cause then to drip down the throat (post-nasal drip). Quinine will cause excessive type 'cuts' due to the presence of Epsom salts. A greater degree of numbness indicates the presence of procaine.

Once the dealer has ascertained the purity of the cocaine, he is ready to begin the process of 'stepping on' the cocaine. Most dealers will dilute a small portion of the cocaine and then retest it. Since the 'cuts' have a tendency to destroy the stability of cocaine, dealers try to sell the consignments immediately after 'cutting'. If at all the consignment has to be kept, it is kept in a cool place such as in a refrigerator or in properly sealed, dark-coloured jars. (to prevent the action of sunlight).

A curious practice is to pack the diluted cocaine in rubber condoms. A rubber condom will usually hold from 15 to 90 gms of powder. Sometimes the powder is packed in slightly bigger plastic baggies which hold upto 175 gms of the powder.

Another curious practice in illicit cocaine trade is the 'body packing' phenomenon. Smugglers of cocaine, in a remarkably ingenious attempt to outwit the Customs officials, swallow several condoms stuffed with cocaine. These smugglers are called 'body packers'. On reaching their destination, they evacuate their bowls and recover the stuffed condoms.



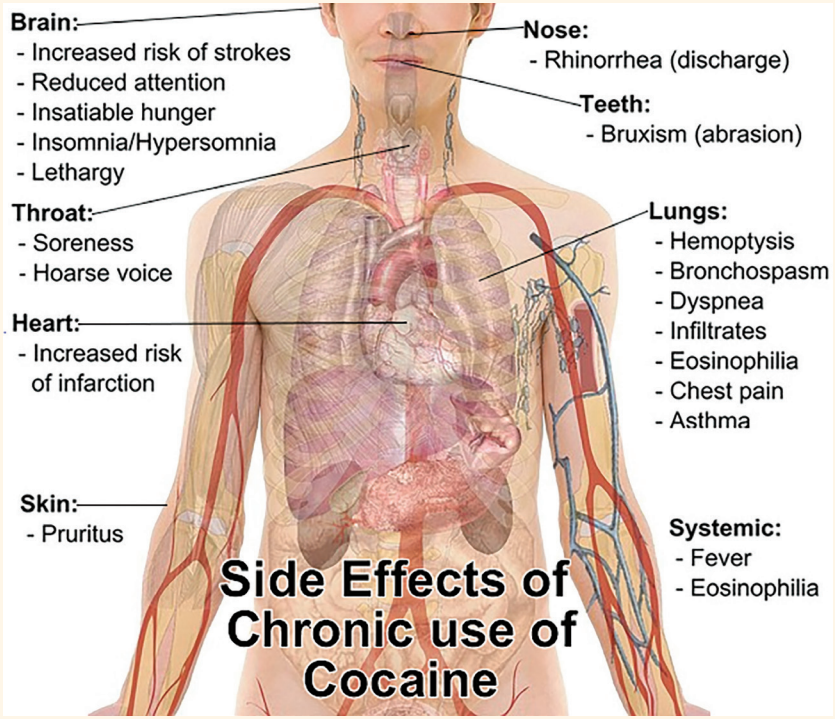
Picture of Cocaine packed in condom seized by Indian Customs from a Passenger arrived in Delhi from Addis Ababa in December 2023.

Many times, however, these condoms burst on reaching the alkaline environment of the intestines and kill the 'body packers' instantaneously. This is known as the body-packers syndrome. The lethal dose of cocaine is about 1200mg (while these condoms may contain as much as 90000mg of powder with somewhat lesser quantity of cocaine in it, depending on the dilution.). Such deaths may sometimes occur when the Customs officials have detained a suspect in a jail for detailed questioning. The suspects seem alright in the evening but is found dead quite unexpectedly in the morning. The stuffed condoms can be detected by X-raying the 'body packers'.

Effects on the body

Cocaine initially stimulates the central nervous system and then depresses it. This is known as the chain reaction. During

the early stimulative phase, there is excitement, apprehension, headache, nausea, vomiting, twitching of small muscles of the face, fingers, arms and thighs. There is increase in pulse rate, rise in temperature, blood pressure and increased respiratory rate and depth. The pupils get dilated, in contrast to the effect of morphine when they get constricted. In advanced stimulative phase there may be convulsions and difficulty in breathing. In the depressive phase, there is, muscle paralysis, unconsciousness and even death. Despite these horrifying symptoms cocaine is taken because initially it gives a pleasurable sensation, which has been likened by many addicts to be akin to a sexual orgasm. Cocaine thus acts rather like the beautiful legendary Greek Sirens who led people to death.



Cocaine was traditionally popular with pimps, prostitutes, musicians, jet-setters and the wealthy. It can be taken by an addict by a number of ways, but the most commonly employed

method is by inhalation. The usual time periods for euphoric effects are generally in the same range when cocaine is injected directly into a vein. When cocaine is taken orally, the effects begin after five minutes and the rush is not as great as when cocaine is injected or snorted. This is why oral intake of cocaine or cocaine eating is not preferred method among addicts. There is little compensation however. The euphoric effect after an oral intake lasts about 15 to 30 minutes longer.

The rush is most intense when cocaine is injected. Snorting produces a slightly lesser effect, yet the effect is not so minor as to make injection a preferred method.

Lastly cocaine can be abused simply by directly smearing it over the body surfaces such as on the gums, underneath the tongue or on the sides of eyelids.

3. Cannabis – Gateway Drug

Cannabis: Its Use, Functions, and Prevalence

Cannabis operations have become a high-tech affair now, but in its crude form, cannabis has been consumed since ancient times. It even finds a place in our mythology.

The first known written record of its use was in the 2737 B.C., when it was chronicled in the Herbal of Chinese Emperor Shen Nung. Reference to cannabis exists in the Old Testament i.e., 'honeywood' in the 'Book of Samuel' and 'Calamus' in the song of Solomon. Our own 'Atharvaveda' (science of charms) mentions bhang as one of the five kingdoms of herbs, which releases us from anxiety. Both the ancient Romans and Greeks knew of cannabis. The Greek physicians, Dioscorides (A.D. 50-70) and Galen (A D 131-201) recommended it for certain ear disorders. The Greek historian, Herodotus, has stated that the Scythians threw it upon red hot stones to release its vapour.

OCB papers are used to roll joints. Rolling papers are made of special hemp and glue and have a water mark which affects the burn rate and the pattern of burn.

Between the ninth and twelfth centuries, Arab invaders introduced cannabis to North Africa, Egypt, Algeria and Morocco and it was glorified in such well- known works as Tales of the Arabian Nights. During the tenth century cannabis was extolled in India as 'Indracanna' or the food of the gods. Very soon however, its ill-effects became known. In A.D. 1378, for instance, Emir Soundouni Schekouni of Arabia outlawed its use and anyone found cultivating or using the plant had to have his teeth removed as a punishment.

Cannabis, produced from the Cannabis sativa plant, is used in three forms: herbal cannabis, the dried leaves and flowering tops, also known as 'cannabis,' ganja,' or 'weed,' among others; cannabis resin, the pressed secretions of the plant, known as 'hashish' or 'charash;' and cannabis oil, a mixture resulting from distillation or extraction of active ingredients of the plant.

Cannabis is produced in nearly every country worldwide, and is the most widely produced illicit drug. The highest levels of cannabis herb production – approximately 25% of global production – take place in Africa, particularly in Morocco, South Africa, Lesotho, Swaziland (now Eswatini), Malawi, Nigeria, Ghana, Senegal, Gambia, Kenya, and Tanzania. North and South America follow, each responsible for 23% of worldwide production of cannabis herb.

Cannabis Sativa plant

Afghanistan has recently emerged as a major producer of cannabis resin, overtaking Morocco in terms of volume, and cannabis has become a competitor to opium poppy as a lucrative crop for farmers.

In addition to production, cannabis use is highest among illicit drugs globally. In many countries, cannabis use increased during the 1990s and early 2000s, but is now generally stabilizing or even decreasing. Rates of use, however, are not low; it is estimated that between 125 and 203 million people – between 2.8% and 4.5% of the world population aged 15-64 –used cannabis at least once during the year 2018.

Cannabis in the Brain and Body

The active ingredient in cannabis, delta-9-tetrahydrocannabinol (THC), is only found in small portions of the cannabis plant, in the flowering tops and in some of the leaves. THC stimulates

cannabinoid receptors (CBRs), located on the surface of neurons, to produce psychoactive effects. CBRs are part of the endocannabinoid system, a communication network in the brain that plays a role in neural development and function. CBRs are typically activated by a naturally occurring neurotransmitter, anandamide.

THC mimics anandamide, binding with the CBRs and activating the neurons, but the effects of THC are more potent and longer acting than the endogenous neurotransmitter. CBRs are widely distributed in the brain, but are particularly prevalent in the hippocampus, cerebellum, prefrontal cortex, and amygdala – brain regions involved in pleasure, cognition, concentration, memory, reward, pain perception, and motor coordination. CBR receptor activation regulates the release of multiple neurotransmitters, including noradrenaline, GABA (Gamma-aminobutyric acid), serotonin, and Dopamine. Animal studies have indicated that THC exposure increases the release of noradrenaline, causing anxiety-like behaviour in rodents. The rewarding effects of cannabis may be due to an increase of serotonin, while GABA is responsible for memory deficits promoted by THC, as well as stress.

While some users may consume cannabis in food or beverages, cannabis is typically smoked in a water pipe or joint (sometimes with added tobacco, usually depending on geographic region), as it is the fastest way for the drug to reach the brain and produce the desired effect. THC passes from the lungs into the bloodstream, and is carried up into the brain, creating the effects almost instantly. Smoked cannabis produces a high that lasts from one to three hours, and delivers significantly more THC into the bloodstream than eating or drinking the drug. A few minutes after smoking cannabis, heart rate increases and in some cases doubles, the bronchial passages relax and become enlarged, and the eyes become red as the blood vessels expand.

While the behavioural effects of cannabis depend on the dose received, potency, mode of administration, the user's previous experience with the drug, and the setting (e.g., the social setting, user's expectations, or mood state), users typically report the feeling of euphoria and relaxation. As those effects subside, some users report feeling sleepy or depressed, and others may feel anxious or panicked, or have paranoid thoughts or experience acute psychosis depending on pharmacogenetic characteristics and vulnerability.

Cannabis use is linked to deficits in tasks of executive functioning. It has negative effects on memory, including the ability to form new memories, and on attention and learning. In a laboratory setting, cannabis and THC produce dose-related deficits in reaction time, attention, motor performance and coordination, and information processing. These effects can last up to 28 days after abstinence from the drug.

Functional imaging studies have found lower activity levels in regions of the brain involved in memory and attention, such as the hippocampus, prefrontal cortex, and cerebellum in chronic cannabis users. Heavy, chronic users may have reduced

volumes of the Hippocampus and amygdala. Additionally, adults who use cannabis heavily often exhibit deficits in executive functioning, attention, learning, and memory within a few days following use.

While THC is the main psychoactive component in cannabis extracts, cannabis contains at least 489 chemical constituents, 70 of which are cannabinoids. While many of these components have not been isolated, two, cannabinol and cannabichromene have slight THC-like effects. Additionally, cannabis contains varying quantities of cannabinoid carboxylic acids, which lack psychoactive effects until they are heated (during cooking or smoking), when they transform into an active form of THC. Cannabidiol (CBD), while abundant, lacks the psychoactive effects of the others, but contributes to anti-inflammatory responses.

Science confirms that the adolescent brain, particularly the prefrontal cortex, is not fully developed until the early to mid-20s, with research indicating that developing brains are much more susceptible to all of the negative effects of marijuana and other drug use.

Effects of Cannabis

The effects of cannabis are mainly due to the chemical THC. The half-life of THC in human body is about 20 hours. This means that if someone has, say 10mg of THC, in his body at any particular instant of time, then after 20 hours, his body will have only 5mg of THC. After another 20 hours his body will have only 2.5mg of THC and so on. Where does the rest of THC go? Well, it is converted to other less harmful substances by the body. These less harmful substances are the metabolites of THC and take their own time to disappear. Complete elimination of a single dose of cannabis (in any of its forms) may take as many as 30 days or even more.

A person may be taking cannabis, say once a week, yet since one dose takes 30 days for complete elimination, weekly intakes can have a cumulative effect. A time may come when the user's body may have dangerously high levels of THC.

A very particular effect after cannabis use is the feeling that time has been expanded. (That is 30 minutes may seem like an hour or more). This results in a false impression that work performed during marijuana use is more intense. This impression is referred to as time expansion or time dilation.

Many users maintain that this drug expands the mind, too, as it is alleged to make one think more clearly and see things to which they were formerly blind. It is also said that it gives the user greater sensitivity to beauty and enables him to develop and express artistic talents.

The trouble with this claim is that all the available evidences point to the contrary. The abuser of cannabis may believe that his mind is working better and that he is being exceptionally creative, but tests show that this is an illusion and clearly indicate that these claims are misconceived.

For instance, scientists took tape-recordings of musicians performing under the influence of cannabis. These performers felt that they were playing better than ever before, but the tapes when played back to them the next day (after the cannabis influence had worn off), made then realise their fault. In particular their sense of timing was off. Some musicians complained that they were victims of a trick and refused to accept the tapes as genuine.

Similarly, artists under the influence of cannabis could not draw properly although at the time they thought that they were doing exceptionally well. People with mathematical training could not solve comparatively simple problems and athletes showed

a marked loss of ability. It is this very fact that makes the use of cannabis so dangerous. How can an habitual misuser be entrusted with any responsibility? Would anyone like to be a passenger in a car with a cannabis smoking driver who believes he is in full control of the car but actually is not?

When very high doses of marijuana are smoked, the user experiences hallucinations. A few smokers experience fear and panic (dysphoria) instead of euphoria. There is no way to tell who will experience dysphoria. At times the same person may experience euphoria and dysphoria at a different time.

How Cannabis Acts

The mechanism of action of cannabis has eluded researchers till now. No one knows how cannabis acts, but certain interesting speculations have been made.

One of the speculations is that the active constituents –THC- binds itself to certain specific sites within our body and then produces its actions. Within our body, scientists have located a number of sites where THC has tendency to stick very strongly. These sites have been identified within the liver and brain, but not much is known about these sites. They may be called THC receptors. Currently research is going on, on these receptors.

Another mechanism is proposed. To understand this mechanism properly, it will be useful to refresh our information on the formation of our body cells. All our cells are covered with a fine covering – the cell membrane. Within the cell membrane there is oil like chemicals – the lipids. The environment within the cell is delicate and the cell must know which chemical it should allow to enter or leave. If the cell somehow forgets this information, all kinds of unwanted chemicals may enter the cell, and those chemical which are useful may leave the cell. Lipids within our cell membranes are mainly responsible for this operation.

Cannabis makes these lipids in such a way that their functioning goes haywire. If such an activity occurred within the brain cells, abnormal sensations are bound to happen that is what experienced after cannabis intake.

Still another mechanism has been proposed. There is a group of chemicals within our body known as prostaglandins. It is a very versatile group of chemicals, that it produces a vast range of actions. Many drugs act by changing the level of prostaglandins within our body. For instance, the common household drug, aspirin, produces its pain-killing action by decreasing the level of prostaglandins within our body. The active chemical THC in cannabis also appears to act by altering the level of prostaglandins within our body. But lot of confusion still remains. For one thing, THC increases the level of prostaglandins in some tissues, and decreases in certain others.

It is quite possible that THC works by a combination of all the above discussed mechanisms.

Running Amok

A rare phenomenon known as 'flashback' has been described in marijuana smokers. This is a strange phenomenon in which the user suddenly experiences toxic symptoms even when he is in a drug free state and has quit marijuana for months. A marijuana user even when he has quit marijuana for months may suddenly turn violent (as if he has taken a strong dose of marijuana) and start running out on the streets as if in a frenzy. This type of behaviour is very typical of marijuana users and is called as 'running amok'. The person may pick up some dangerous weapon and go on a rampage, killing people. Once the flashback phenomenon wears off, the person is too horror-struck at what he has done. He may even go to the Police station, surrender his weapon and confess what he has done.

Many users claim that marijuana increases libido, but this could be an indirect result of discarded inhibitions rather than true aphrodism. In fact, it might lead to lowering of fertility. The sperm count is reduced, the level of sex hormones (testosterone) falls in the blood and some males tend to develop breasts (gynaecomastia).

Cannabis and Driving

In the past decade, researchers from all corners of the world have documented the problem of cannabis use and driving. Linked to neurological deficits, including the impairment of motor coordination and reaction time, cannabis use can increase the risk of road accidents in drivers who are under the influence. Cannabis remains the second most cited drug after alcohol in car crashes.

The most robust evidence linking cannabis use and driving comes from a meta-analysis of nine studies conducted by researchers at Columbia University's College of Physicians and Surgeons. After reviewing these epidemiologic studies from the past twenty years, they found that cannabis use was linked to heightened risk of crash involvement, even when controlling for multiple different variables.

Furthermore, they found that the risk of crash involvement increased along with an increase in cannabis potency (tested through urinalysis) and self-reported frequency of use. The researchers commented that "the results of this meta-analysis suggest that cannabis use by drivers is associated with a significantly increased risk of being involved in motor vehicle crashes."

Research conducted at the University of Auckland, New Zealand also showed that cannabis use and auto crashes are strongly linked. The research found that habitual cannabis users were

9.5 times more likely to be involved in crashes, with 5.6% of people who had crashed having taken the drug, compared to 0.5% of the control group.

Cannabis and the Respiratory and Cardiovascular Systems

Because cannabis is frequently smoked, bronchial and lung diseases are not uncommon. Cannabis smoke is composed of many of the same ingredients that are present in tobacco smoke (e.g., carbon monoxide, cyanide), with the exception of THC in cannabis, and nicotine in tobacco. Infrequent cannabis users may experience burning and stinging of the mouth and throat, along with a heavy cough, and regular cannabis smokers often have many of the same respiratory problems as tobacco smokers, including daily cough and phlegm production, frequent acute chest illness, and an increased risk of lung infections and pneumonia. Even in the absence of tobacco, regular cannabis smoking can lead to both acute and chronic bronchitis, at a comparable rate to cigarette smoking. Long-term studies from the USA and New Zealand have shown that regular cannabis smokers report more symptoms of chronic bronchitis than non-smokers.

There is a four-fold greater quantity of cannabis smoke particles (tar) in the respiratory tract compared to the tar generated from the same amount of smoked tobacco. This inconsistency is attributed to differences in the way cannabis is smoked compared to tobacco – for example, cannabis smokers hold their breath significantly longer than tobacco smokers. Approximately twice as many immune cells are present in the lungs of cannabis smokers because of an inflammatory response to noxious components. This impairs the immunological competence of the respiratory system, thus increasing health service needs due to respiratory infections.

HIV positive individuals who smoke cannabis may be predisposed to pulmonary infections and pneumonia, a consequence that warrants further investigation given the prevalence of cannabis use for medicinal purposes in this population. Cannabis smoke contains many of the carcinogens present in cigarette smoke, and holding the breath exposes the lungs to carcinogenic smoke for a longer period. The smoke also includes an enzyme that converts some hydrocarbons into a cancer causing form, potentially accelerating the changes that produce malignant cells. Animal lungs exposed to cannabis smoke developed abnormal cell growth and accelerated malignant transformation, to a greater extent than those exposed to tobacco.

Cannabis may produce adverse effects on the cardiovascular system; because cannabis and THC cause a dose-dependent increase in heart rate, concern exists about adults with cardiovascular disease. Cannabis use can cause an increase in the risk of myocardial infarction 4.8-fold in the hour after use, and provokes angina in patients with heart disease.

Cannabis and Cognitive Effects

Cannabis use most often begins in teenage years and peaks in the early and middle 20s. Adolescents who use cannabis are at risk for a number of harmful drug-related effects, and larger deficits can be attributed to higher dose and earlier age of use onset. Cannabis-dependent teens show short-term memory deficits as well as delayed recall of visual and verbal information. Even after six weeks of abstinence, cannabis users do not show significant improvement in short-term memory ability.

Importantly, these deficits were not seen in adolescents who use other drugs, suggesting that cannabis has a unique influence on memory and learning. Teens who continue to use cannabis heavily show poorer complex attention functioning as well as slower psychomotor speed, poorer sequencing ability, and difficulties in verbal story memory. Other studies show that long-term heavy cannabis users do show impairments in memory and attention that endure beyond the period of intoxication and worsen with increasing years of regular cannabis use.

Cannabis and Mental Illness

Cannabis use is associated with psychotic symptoms, schizophrenia, anxiety, and depression. When compared with those who have never used cannabis, young adults who began using the drug at age 15 or younger are twice as likely to develop a psychotic disorder, and four times as likely to experience delusional symptoms. This trend persisted in a study examining sibling pairs, thus reducing the likelihood that the association was related to unmeasured genetic or environmental influences. A dose-response relationship was found; that is, the longer the duration since initial cannabis use, the higher the risk of psychosis-related outcomes.

A number of longitudinal studies throughout the world have found that users who had tried cannabis by age 18 are significantly more likely to be diagnosed with schizophrenia than those who have not used the drug, and approximately 13% of cases of schizophrenia could be averted if cannabis use was prevented. While the exact nature of this relationship is unclear, the amount of the drug used, the age at first use, and genetic vulnerability may play a role.

Current cannabis smokers may be in a persistent state of heightened anxiety, which can reduce their reactions to stressful situations, particularly when compared to nonusers.

These effects are seen at a psychobiological level, as current cannabis users have lower levels of the stress hormones cortisol and adrenocorticotropic (ACTH) – levels that are correlated with length of exposure. These neurological deficits may also be responsible for reduced motivation and poor capacity to cope with stress, which could lead to cannabis users dealing with those issues by using opioids, alcohol, benzodiazepines, and other illicit drugs.

Best Practices in Cannabis Prevention and Treatment

Cannabis as a Gateway Drug

Consistent evidence has shown that cannabis use almost always precedes the use of other illicit drugs, including cocaine, methamphetamine, hallucinogens (including LSD and ecstasy), illegally obtained prescription drugs, and opiates, such as heroin or morphine. Cannabis users are significantly more likely than non-users to use other illicit drugs, and more frequent use of cannabis and younger age of initiation to the drug strengthen this relationship, even after controlling for potential confounding variables and studying twins. This use pattern is strongest in adolescents and declines with age, possibly because of increased social maturity on the ability to resist illicit drug use. There are multiple hypotheses as to why cannabis acts as a gateway drug. Animal studies have shown evidence that brain chemistry is altered with increased use of cannabis, and these changes may increase responsiveness to other illicit drugs.

Animal studies also indicate that the cannabinoid and opioid systems in the brain interact with each other, and cannabinoid self-administration "primes" animals to self-administer opioids, as CBRs and opioid receptors overlap in some areas of the brain. These studies have also shown that chronic exposure to THC creates a tolerance to some opioids, and that heroin reinstates cannabinoid-seeking behaviour. While well-controlled studies

in humans are needed to confirm these findings, twin studies that allow researchers to control for genetic influences and environment, have indicated that those factors alone are not wholly responsible for further drug use.

Risk and Protective Factors

Over the past two decades, much of the research in drug prevention has centered on trying to determine what factors lead to the initiation of drug use and how and why this behaviour progresses. There is a robust science base and framework for identifying and addressing the risk factors and protective factors for drug use. Both risk and protective factors affect youth at different life stages, from pregnancy through young adulthood, as well as in various domains including individual, peer, family, school and community. When not properly identified and dealt with early on negative behaviour can further a child's risks for drug use and other problems. Effective preventative interventions reduce risk and increase protection at each developmental stage, as well as within each domain.

The possible impact of any particular risk or protective factor changes as a person ages. Specific risk and protective factors in particular domains, such as the home environment, can have a greater influence on younger children, while peer level risk and protective factors can be more important for adolescents. Early life family dynamics can either increase the risk for drug use, given poor nurturing or ineffective parenting, or reduce the risk through developing strong initial child parent bonding and providing clear, consistent discipline, which are important protective factors.

Research shows that crucial periods of risk for drug use and abuse occur during key life-transitions, such as moving from elementary school to middle school. One of the most salient risks

for youth drug use is associating with drug abusing peers. Other important community level risk factors for drug initiation are access to and availability of drugs, drug trafficking patterns, and normative beliefs that drug use is "generally tolerated".

Certain family and environmental factors may increase the risk for cannabis use. In addition to disengagement from school, parents or other family members who have problems with alcohol and drugs may model drug use for their children, have difficulty monitoring their behaviour, or enhance the availability of substances. Conflicted families may not offer the support for adolescents to deal with stressors in their lives, monitor their behaviour, or may be a stressor themselves, potentially causing drug use as a form of stress relief. Exposure to community violence increases risk as well; high levels of stress are associated with witnessing and being victimized by violent crime, causing teenagers to turn to drugs as a form of stress relief, and there are often more drug opportunities in high-violence areas.

Additionally, adolescents who display impulsive behaviour may be more likely to initiate drug use. While there are multiple risk factors for cannabis use, protective factors exist as well. Parents who are religious are more likely to support and monitor their children, and to communicate values regarding behaviour. They are also more likely to have children who are religious, and religious adolescents engage in less deviant behaviour, including substance use. This is potentially because of personal beliefs regarding behaviour, or as a result of support for healthy behaviour from religious institutions.

Family communication and cohesion are also protective, as these families are often more supportive and adolescents are reinforced for adaptive coping behaviour. Additionally, the feeling of being cared for and connected to parents or guardians protects adolescents from substance use. School engagement, including

completing homework and participating in extracurricular activities, is protective. Teachers can provide a great deal of support for adolescents, as a buffer for negative peer interactions and helping to develop a feeling of connection with School.

The risk and protective factor framework provides an important way to understand the causes of substance use and abuse, with the more risks a child is exposed to the more likely that child will use or abuse drugs. One of the crucial goals of drug prevention is to alter the equation between risk and protective factors, in order to amplify the number of protective factors in relation to risk factors across all of the relevant domains and life stages.

When focusing on substance use/abuse prevention, the definition associated with the terms "high need youth" or "high-risk youth," which typically describes youth from families and/or communities with a lower socioeconomic status must be broadened to include those from families and/or communities with more disposable income. Contrary to the popular belief that children with higher levels of disposable income are at low risk for various problems, these youth are actually prone to problems in several domains – particularly substance use. Longitudinal studies from both the United States and France have shown that adolescents from affluent families more often experiment with cannabis.

However, they may not be as likely to become addicted. It is possible that this is due to the fact that adolescents from higher socioeconomic (SES) families are more concerned about the future (e.g., they are more concerned about endangering their school performance and career prospects), and their peers may be less likely to condone drug use. Moreover, it is also possible that adolescents from affluent families have more opportunities to stop the escalation to dependence. Studies have also found that those youths with multiple risk factors and few protective

factors are the most vulnerable to drug use/abuse and addiction, and less likely to get interventions and treatment, especially when they drop out of school.

Media Messages

In the past ten years, the internet has revolutionized media. Social networking sites, inexpensive mobile technology, and the increase of internet reach and speed have meant that young people are routinely exposed to various kinds of messaging and advertising. Unfortunately, this has also meant that messages directly or indirectly promoting alcohol, tobacco, and other drugs have proliferated.

According to a survey done for the U.S. government by the respected Nielson media company, nearly one million American teens, or 5% of teens viewing online videos, viewed drug-related videos in June, 2008. Teens watched 1.2 million drug-related videos during the one month period. More than a third (35%) of teens who viewed drug-related video are younger than 16. Almost 40% of drug-related videos contain explicit use of drugs and/or intoxication. When examining content of prime time television, content concerning drug abuse is scarce, particularly when compared to messages about food and nutrition, alcohol use, and smoking – three topic areas commonly portrayed. An analysis undertaken by Byrd-Bredbenner, Professor in the Nutritional Sciences at Rutgers University, and colleagues found that information about drug abuse appeared in only 0.04% of a sample of prime time television shows in the United States.

This is worrisome, as these shows lack messages and examples for children and adolescents as to how best to approach and handle drug use and abuse. Other studies have examined the types of drug use messages contained in music lyrics and music videos, and, in one such study, Roberts and colleagues found

that almost in 1 in 5 songs sampled contained references to illegal drugs. Brookshire and colleagues found that adolescents, particularly those who listen to rap music, are exposed to lyrics that portray drug use in a positive manner.

Young People and Perceptions of Risk

Softening attitudes are problematic, as research demonstrates that illegal drug use among youth declines as the perception of risk (whether or not you think a drug is dangerous) and social disapproval increases. A number of journal articles have substantiated "the powerful cross time association between perceived risk and use that cannot be explained away by concurrent shifts in a number of other lifestyle factors. Perceived risk remains a powerful predictor of use, even when controlling for a host of other known risk factors.

This research also finds that these attitudes are more able to explain the changes in use, rather than the inverse. This fact is clearly demonstrated when looking at U.S. school-based survey data, such as Monitoring the Future (MTF) trend data.

For example, according to the Monitoring the Future National Survey Results on Drug Use, 1975-2009, Volume I, Secondary School students 2008, "the amount of perceived risk associated with using cannabis fell during the earlier period of increased use in the late 1970s, and fell again during the more recent resurgence of use in the 1990s.

Indeed, perceived risk among 12th graders began to decline a year before use began to rise in the upturn of the 1990s, making perceived risk a leading indicator of change in use. The decline in perceived risk halted after 1997 for 8th and 10th graders, and annual prevalence began to decline a year or two later. Again, perceived risk was a leading indicator of change in use, as it has been proven to be for a number of drugs." Further, the extent to which youth understand that use of a specific drug is harmful dramatically and inversely influences the substance use rates for that drug.

Many governments have reported that media messages that normalize drug use and calls for legalization of cannabis, contribute to more widespread acceptance of drug use. And in the past, softened youth attitudes toward drug use have preceded an increase in use. The U.S. cites statistics that between 2002 and 2009, the percentage of youths aged 12 to 17 perceiving great risk declined for cannabis and that this attitude change contributed to increases in use. The 2010 University of Michigan Monitoring the Future Survey revealed the perceived harm for smoking cannabis occasionally or regularly has been decreasing among the 8th grade since 2007. Social disapproval for smoking cannabis once or twice, occasionally, and regularly has been decreasing among 8th graders since 2007.

Prevention

Cannabis prevention efforts are critical because cannabis is often the first illegal drug used by youth. Preventing substance use

before it begins not only makes common sense, it is also cost effective. For every dollar invested in prevention, a savings of up to $10 in treatment can be realized. Generalized universal prevention programs to help build strong families and provide youth with the skills to make good, healthy decisions are necessary components of effective drug prevention.

In addition, there is also a need to focus specifically on the community risk and protective factors explicitly related to the initiation and use of, illegal drugs which include, social norms, access, availability and perceptions of harm. For example, critical policy and environmental interventions (e.g. policies outlawing cannabis storefronts or limiting the sale of drug paraphernalia) are unique to substance abuse prevention and may not be as relevant to other forms of prevention such as bullying, violence, etc.

Prevention science in the field of substance abuse has made great progress in recent years resulting in effective intervention to help children reduce the risk of initiating drug use at every step along their developmental path. Working more broadly with families, schools, and communities, scientists have found effective ways to help people gain the skills and approaches to stop problem behaviours, such as drug use, before they occur.

Decades of research demonstrate that there are core principles of drug prevention that strengthen prevention programs and increase effectiveness. For example, according to the U.S. National Institute on Drug Abuse (NIDA), which conducts more than 85 percent of the world's research on drug abuse;

- Prevention programs should enhance protective factors (e.g., parental monitoring, bonding, supporting and warm parenting, success in school, participation in extracurricular activities) and reduce risk factors (e.g., deviant peers,

academic failure, a caregiver who is a substance abuser, affectionless control, ready availability of drugs in community, and policies that normalize drug use).

- Prevention programs should be localized and community specific, addressing the actual problems and drugs threatening the community, the risk factors unique to the community, and strengthening the community's identified protective factors. However, the core elements of the research-based program must be retained.
- Prevention program elements should be tailored for the target audience (e.g. Family-based prevention should enhance family bonding, and other parenting Protective factors, while school-based prevention should provide youth with assertiveness, communication, and drug resistance skills).
- Prevention programs are most effective during key transition periods when youth are at most risk (e.g., transition from middle school to high school).
- Prevention programs implemented in multiple settings (e.g., in the school and home), for longer periods of time, with subsequent follow-up sessions, are most effective.
- Prevention programs implemented in the community across multiple settings (e.g., faith-based organizations, schools, and the media) should be consistent in messaging across settings. A comprehensive multi-sector approach to cannabis prevention has gained traction in recent years. This community-wide approach, rather than focusing on implementing only one particular program, works to engage an entire community in the following evidence-based processes:
  1. assess their prevention needs based on epidemiological data;

2. build their prevention capacity;
3. develop a strategic plan;
4. implement effective community prevention programs, policies and practices; and
5. evaluate their efforts for outcomes.

This type of comprehensive approach identifies a community's specific problems and program/ service gaps, as well as its assets and resources. This allows a community to plan, implement and evaluate its efforts across community sectors in relevant settings for individuals, families, schools, workplaces and the community at large.

An example of this approach are the drug-free community coalitions, currently in existence in the United States, Mexico, Peru, Guatemala, Honduras, El Salvador, Colombia, Mexico, Brazil and South Africa. Drug-free community coalitions develop and implement data-driven strategic plans to increase awareness, change norms, laws, practices, and procedures, engage the media as well as work with partner organizations to ensure that the right mix of science based programs and services are available to address a community's unique drug issues.

In 2010, an independent evaluation found that communities with such coalitions had significant reductions in alcohol, tobacco, and cannabis use among middle and high school age youth while perception of risk increased.

Even if community-based approaches have shown their effectiveness, it is also important to mention that other specific interventions, like family-based approaches, life-skills building, and behaviour skills enhancement games have also proven to be effective.

Conclusions

Recent data on smoking cannabis clearly shows that it is unhealthy and dangerous. Cannabis use is linked to addiction, cognitive impairment, motor skills deficiency, respiratory, cardiovascular and mental health problems, and it has been shown to be particularly damaging to maturing brains. The international experience with increased emergency room admissions and treatment entrants represent the dangerousness of today's highly potent cannabis, and its potential to greatly threaten both the public health and public safety.

On the other hand, components of cannabis have been found to be effective for a few medical reasons, and research in this area is on-going. Despite some increased calls for depenalisation or "soft-drug" labelling, Member States of the Commission on Narcotic Drugs have not raised the subject in this formal setting, and cannabis possession should remain a punishable offence, while its use should be prevented and its continued use treated. There are several evidence-based prevention and treatment strategies that governments can implement to effectively reduce marijuana use, abuse and addiction and prevent much of the consequences and costs to society with regard to health care, social support, security and development.

"What Teens should know"

Chapter - II

What Teens Should Know

1. Why do people abuse Drugs?

There are different excuses for abusers for using drugs of their choice and they believe that these drugs can give relief to their problems. This is a wrong notion of the drug users. Instead of facing any problem or getting counselled, they choose an escape route upon ill-advice, and finally they end up in a dangerous situation of addiction.

- Lack of self-esteem (I'm dirty, rotten, stinky, no good).
- Problems (I feel better when I'm stoned).
- Peer pressure (I wanna be like…).
- Rebellion (I'll show them).
- Curiosity (is it true what they say?)

There are lots of reasons why people take illegal drugs. Some take them to escape problems while others are bored, curious or just want to feel good. People may be pressured into taking drugs to "fit in" with a particular crowd or to rebel or get attention.

Peer pressure and curiosity are the two main reasons that induce students.

Coping with Peer Pressure

Think about where you stand on issues like drugs and alcohol. Prepare by thinking how you want to respond and behave in situations where these things come up. Nobody should have to justify a decision not to take drugs. Whether you have a strong personal commitment, or just don't want it, your choices are your business. If you are offered drugs you don't want, say no firmly but clearly and without making a big deal about it. If they try to persuade you, humour can be an effective way to deal with the situation. However, it feels good to stick with what you believe in. Explaining to people in a calm way why you don't want to be part of something may earn you respect from others. Finding out about the different drugs, from the effects to the risks involved, can help you resist pressure. As your understanding grows, so will your confidence. Peer pressure is often a way for people to seek approval for their own behaviour. Do you really want to get involved to help justify someone else's drug use? Your friends will respect you more if you're clear about what you want and what you don't want to do.

Curiosity

Adolescents are adventurous, self-confident and often do new things to show that they can. By and large, this is the age at which most addicts get initiated into drugs. But as far as drugs are concerned, the illicit drugs have the highest danger of dependency and are highly addictive in nature. Once you start using these drugs, your body develops a dependency to these drugs and you cannot come out without physical withdrawal symptoms. Though your mind says don't do it, your body needs it. At that time there will be a fight between your body and mind. Generally, any physical urge have the capacity to win over the mind, therefore it is very difficult to get rid of the dependency. It is better to say no to drugs for the very first time and every other time.

2. What teenagers should know about Drugs?

Technically, drugs are chemical substances that alter or affect the function of the body. Therefore, medicines are drugs, as are cigarettes, coffee and alcohol. However, here we are focusing on the drugs we cannot buy in a shop, that is, illegal drugs.

There are lots of reasons why people take illegal drugs. Some take them to escape their problems while others are bored, curious or just want to feel good. People may be pressured into taking drugs to "fit in" with a particular crowd or they may take drugs to rebel or to get attention.

Drug users come from all kinds of backgrounds. They are male and female, young and old, rich and poor, working and unemployed, from the city and the countryside—it does not matter. Drug use can affect anyone.

Marijuana (pot, grass, weed, ganja) is usually smoked in a cigarette and sold in brown chunks. Amphetamines (including

meth) and ecstasy are usually sold as pills, but can also come in a powder that can be mixed into a drink. Users simply swallow the pill or the drink. Cocaine, a white or brownish powder, is usually snorted through the nose, while heroin is generally injected with a syringe.

Different drugs have different effects on the body. While effects vary from one person to the next, in general, marijuana gives users an initial "high", or a dizzy, light-headed feeling, followed by a more relaxed sensation. Amphetamines provide an energy boost so that users can stay awake longer and work or dance more. Cocaine can give users a very happy, euphoric feeling when first taken, and it can make users forget they are hungry or tired.

While these effects might sound nice, they do not last long. Many people get depressed and lonely afterwards and start feeling sick. Also, it is common for people who use drugs to seem confused, have red eyes, sweat a lot and not to care about their physical appearance. And, of course, there is the risk of becoming addicted.

Drugs have other physical side effects. For example, a marijuana cigarette contains much more tar than a normal cigarette, which increases users' risk of getting lung cancer and other respiratory diseases. People who snort cocaine risk damaging the fragile tissue in their noses. Injecting drugs can expose users to various infectious diseases, including HIV/AIDS. And drug use in general can lead to a number of health problems, such as malnutrition, apathy, menstrual irregularities and irregular heart rhythm.

Studies have proved that people who start smoking cigarettes and/or drink alcohol at a young age are much more likely to experiment with illegal drugs than people who do not smoke or drink.

3. Types and classification of Narcotic Drugs and Psychotropic Substances

Based on the origin drugs can be broadly classified into the following three major categories;

- Plant-based Drugs/Natural Drugs:
  E.g. Opium, Cannabis (Ganja), Coca paste etc.

- Semi-Synthetic Drugs:
  E.g. Heroin (Brown Sugar), Cocaine etc.

- Synthetic Drugs/Pharmaceutical Drugs:
  E.g. ATS (Amphetamine Type Stimulants), Methaqualone (Mandrax), Diazepam, Alprazolam etc.

There are three plants in the world from which we get the natural drugs. Of the three, Opium is permitted to be cultivated in India by Central Bureau of Narcotics for medical and scientific purpose only. The remaining two plants are not permitted for cultivation even for therapeutic use.

Heroin and Cocaine fall under the category of semi-synthetic drugs as they are derived from a natural plant and manufactured with a help of a synthetic chemical.The rest of the drugs fall under the category of synthetic drugs.

Based on the Physiological action on human body, drugs are majorly classified into 4 types

- Opiates (Pain killers)
- Depressants/Sedative-Hypnotics
- Stimulants
- Hallucinogens

Opiates

- Opiates are drugs derived from chemicals found in the sap of the opium poppy, E.g. Opium, Heroine, Morphine etc. They are highly addictive and affect CNS.
- Opiate abuse changes the brain function and also kills brain cells and thus affects learning & memory.
- Opiate abuse takes its toll on almost every major body system.

Depressants

Depressants are drugs that slow down body functions and metabolism. They are popularly known as “downers” because they calm you down and relax you.

- E.g. Diazepam, Methaqualone (Mandrax), Barbiturate group etc.
- Higher doses of depressants can cause impairment of memory, judgment and coordination, irritability, paranoia and suicidal thoughts. Some people experience the opposite of the intended effect, such as agitation or aggression.
- A Sudden withdrawal can cause death.

Stimulants

"A Stimulant is a substance that raises levels of physiological or nervous activity in the body."

- E.g. Coca Plant, Cocaine, ATS (amphetamine and methamphetamine) etc.
- The abuse of Stimulants, especially through injection or snorting, puts greater strain on the body.

Permanent damage to blood vessels of heart and brain that can lead to heart attacks, strokes and death

Hallucinogens:

Hallucinogen is a drug that causes hallucinations (profound distortions in a person's perceptions of reality)

- E.g. LSD (Lysergic Acid Diethylamide), Large doses of Cannabis, Ketamine etc.
- Hallucinogens cause delusions, impaired time perception, distorted perception of the size and shape of objects, movements, color, sounds, touch and the user's own body image.

Hallucinations can be disastrous and even fatal if any person involves in any activity under the influence of hallucinogens, because of the distortion of a person's perception of reality.

4. Types of Drugs and its physiological effects

Illegal drugs are drugs that are so harmful that countries across the world have decided to control them. Countries have passed several international laws, in the form of United Nations conventions that specify which drugs are controlled.

All the drugs discussed in this chapter are illegal. This means that generally, it is against the law to own, use or sell these drugs worldwide. Drugs tend to have several street names and this chapter will tell you some of them. However, it is not a complete list and the drugs might have different names in your country or city. These names may also change over time. The street names do not tell you anything about the strength or purity of a drug.

All illegal drugs have immediate physical effects, which you can read about in this chapter. But drugs can also severely hinder psychological and emotional development, particularly among young people. In fact, drugs can take away potential that users can never get back as drugs substitute the development of other, natural coping mechanisms.

Although each drug is discussed separately in this chapter, drugs are often used together. This mixing can have unpredictable, severe effects on the body and/or mind of the user. Drugs

cloud the judgement of users. This means that drug users often take more risks, such as having unsafe sex. This can lead to them getting infected with hepatitis or HIV and other sexually transmitted diseases.

Cannabis

Bongo/Ganja/Grass/Marijuana/Pot/Thai sticks

What is it?

Cannabis is a tobacco-like greenish or brownish material made of the dried flowering tops and leaves of the cannabis (hemp) plant. Cannabis resin or "hash" is the dried black or brown secretion of the flowering tops of the cannabis plant, which is made into a powder or pressed into slabs or cakes.

Cannabis oil or "hash oil" is a liquid extracted from either the dried plant material or the resin.

How is it taken?

All forms of cannabis are usually smoked. Cannabis resin and oil can also be swallowed or brewed in tea.

How does it affect users?

Cannabis can make users feel pleasurably relaxed and sometimes euphoric. Users may also experience a more vivid sense of sight, smell, taste and hearing.

What are the risks associated with cannabis use?

In the short term, users have an increased appetite and pulse rate. Users also have problems performing physical and intellectual tasks such as driving a car and thinking logically. With large doses, users′ perceptions of sound and colour may be sharpened, while their thinking becomes slow and confused. If the dose is very large, the effects of cannabis are similar to those of hallucinogens and may cause anxiety, panic and even psychotic episodes.

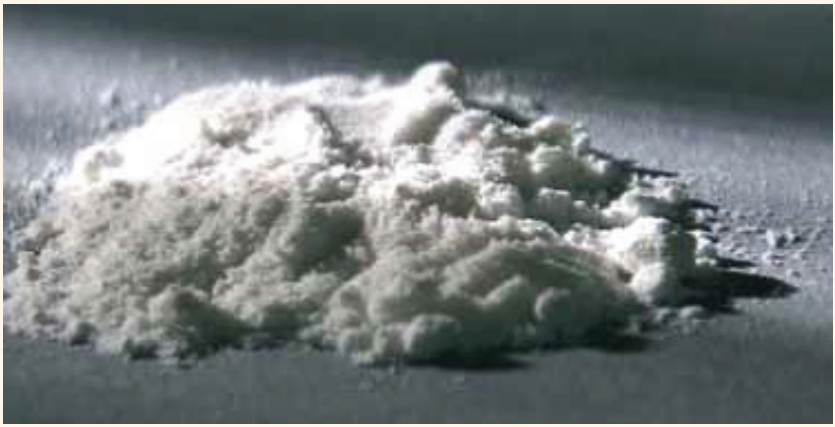
Regular users of cannabis risk developing psychological dependence to the point where they lose interest in all other activities, such as work and personal relationships. Recent studies in the United Kingdom show a link between cannabis use and an increase in schizophrenia.

Other risks

Cannabis smoke contains 50 per cent more tar than high-tar cigarettes, which puts users at an increased risk of lung cancer and other respiratory diseases.

Cocaine

Crack/Bazooka/Blanche/Cake/Coke/Lady



What is it?

Cocaine is a fine white or off-white powder that acts as a powerful stimulant. It is extracted from the leaves of the coca plant. On the street, it can be diluted or "cut" with other substances to increase the quantity. Crack is cocaine that has been further processed with ammonia or sodium bicarbonate (baking soda) and looks like small flakes or rocks.

How is it taken?

Cocaine is usually sniffed/snorted or injected, whereas crack is smoked.

How does it affect users?

Cocaine can make users feel exhilarated and euphoric. Furthermore, users often experience a temporary increase in alertness and energy levels and delayed hunger and fatigue.

What are the risks associated with cocaine use?

Short-term effects include loss of appetite, faster breathing and increased body temperature and heart rate. Users may behave bizarrely, erratically and sometimes violently. Excessive doses of cocaine may lead to convulsions, seizures, stroke, cerebral haemorrhage or heart failure.

Long-term users of cocaine risk a number of health problems, some of them depending on how they take the drug. Sniffing cocaine severely damages nose tissue; smoking can cause respiratory problems; whilst injection can lead to abscesses and infectious diseases. Other risks, regardless of how the drug is taken, include strong psychological dependence, malnutrition, weight loss, disorientation, apathy and a state similar to paranoid psychosis.

Other risks

Mixing cocaine with alcohol is a dangerous cocktail and can greatly increase the chances of sudden death.

Ecstasy

E/Snackies/New Yorkers

What is it?

Ecstasy is a psychoactive stimulant, usually made in illegal laboratories. In fact, the term "ecstasy" has evolved and no longer refers to a single substance but a range of substances similar in effect on users. Frequently, any tablet with a logo is now referred to as "ecstasy" regardless of its chemical makeup. While the drug is usually distributed as a tablet, it can also be a powder or capsule. Tablets can have many different shapes and sizes.

How is it taken?

It is usually swallowed but can also be snorted or injected.

How does it affect users?

Ecstasy can heighten users´ empathy levels and induce a feeling of closeness to people around them. It can also make users feel more sociable and energetic.

What are the risks associated with ecstasy use?

In the short term, ecstasy can make the body ignore distress signals such as dehydration, dizziness and exhaustion and it can interfere with the body's ability to regulate temperature. Furthermore, ecstasy can severely damage organs such as the liver and the kidneys. Use can lead to convulsions and heart failure.

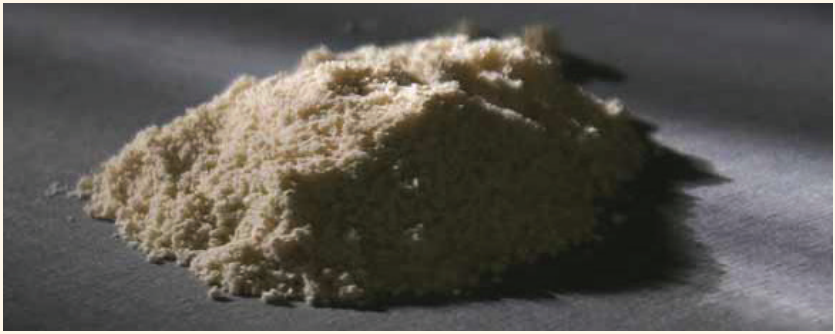
Large doses of ecstasy also cause restlessness, anxiety and severe hallucinations. Long-term ecstasy use can damage certain parts of the brain, resulting in serious depression and memory loss.

Other risks

Tablets or pills that are sold as "ecstasy" may contain other potentially dangerous substances which can vary widely in strength and effects.

Heroin

Smack/H/Horse/Junk/Harry/White lady



What is it?

Heroin is an addictive drug with pain-killing properties processed from morphine, a naturally occurring substance from the opium poppy plant. Pure heroin is a white powder. Street heroin is usually brownish white because it is diluted or "cut" with impurities, meaning each dose is different.

How is it taken?

It is usually injected but can also be snorted, smoked or inhaled.

How does it affect users?

Heroin can relieve users′ tension, anxiety and depression. Users feel detached from emotional or physical distress or pain. With large doses, users may experience euphoria.

What are the risks associated with heroin use?

Short-term effects include constricted pupils, nausea, vomiting, drowsiness, inability to concentrate and apathy.

Heroin is very addictive and users may quickly develop physical and psychological dependence. They also risk developing tolerance for the drug, which means they need constantly higher doses to achieve the effect they want.

Long-term heroin use has a variety of severe health effects. Among other things, it can cause severe weight loss, malnutrition and constipation. It can also lead to menstrual irregularity, sedation and chronic apathy. Abruptly quitting heroin use leads to withdrawal symptoms which can be severe such as cramps, diarrhoea, tremors, panic, runny nose, chills and sweats.

Other risks

Users risk overdosing on heroin, which can lead to coma and death through respiratory depression.

LSDAcid/Hippie

LSD is one of the most potent hallucinogens, or "psychedelics." These are drugs that alter users' state of consciousness and produce different kinds of hallucinations. Other hallucinogens are phencyclidine (PCP), hallucinogenic amphetamines, mescaline and psilocybe mushrooms.

What is it?

LSD is a semi-synthetic drug derived from lysergic acid, which is found in a fungus that grows on rye and other grains.

LSD, commonly referred to as "acid", is usually sold on the street as small squares of blotting paper with drops containing the drug. It can also be sold as tablets, capsules or occasionally in liquid form. It is a colourless, odourless substance with a slightly bitter taste.

How is it taken?

It is usually swallowed.

How does it affect users?

Taking LSD leads to strong changes in thought, mood and senses in addition to feelings of empathy and sociability. However, the exact effects of LSD vary depending on the mental state of the user and the environment when taking the drug.

What are the risks associated with LSD use?

Short-term, LSD produces delusions and distorted perceptions. The user´s sense of depth and time changes and colours, sound and touch seem more intense.

Some LSD users experience severe, terrifying thoughts and feelings such as fear of losing control, fear of insanity and death, and despair.

The physical effects are small compared to the psychological and emotional effects. They include dilated pupils, increased heart rate and blood pressure, loss of appetite, sleeplessness, dry mouth and tremors.

Methamphetamine

Crack meth/Ice/Crystal meth/Tik/Shabu/Yaba

What is it?

Methamphetamine is part of the group of drugs called amphetamine- type stimulants (ATS). It is a synthetic drug that is usually manufactured in illegal laboratories.

Methamphetamine comes as a powder, tablet or as crystals that look like shards of glass.

How is it taken?

It can be swallowed, sniffed/snorted, smoked or injected.

How does it affect users?

Methamphetamine stimulates a feeling of physical and mental wellbeing, as well as a surge of euphoria and exhilaration. Users experience a temporary rise in energy, often perceived to improve their performance at manual or intellectual tasks. Users also experience delayed hunger and fatigue.

What are the risks associated with methamphetamine use?

Short-term, users can lose their appetite and start breathing faster. Their heart rate and blood pressure may increase and their body temperature may rise and cause sweating. With large doses, users can feel restless and irritable and can experience panic attacks.

Excessive doses of methamphetamine can lead to convulsions, seizures and death from respiratory failure, stroke or heart failure.

Long-term methamphetamine use can lead to malnutrition, weight loss and the development of psychological dependence. Once chronic users stop taking methamphetamine, a long period of sleep, and then depression, usually follows.

Other risks

Methamphetamine use sometimes triggers aggressive, violent and bizarre behaviour among users.

Chapter - III

Prescription Drugs & NPS – The Challenge of the Future

1. Misuse of Prescription Drugs

The last decade has seen a substantial rise in the recreational use of pharmaceutical drugs across South Asia. Ready availability, affordability and high purity of narcotic and psychotropic pharmaceuticals make them attractive substitutes for illicit drugs among current and former users. The health consequences are severe as more and more people appear to be switching towards injecting methods, carrying the serious risks of spreading HIV and hepatitis C which have already become priority public health issues.

Nature & extent of abuse

Pharmaceutical drugs have recently gained popularity among recreational drug users in India due to the following perceptions in the mind of the user:

- It is legal to obtain such substances as they are available through pharmacies
- They do not have a damaging effect on health unlike banned hard drugs
- They do not attract a stigma unlike banned hard drugs

The increasing acceptability among the medical fraternity for the use of opiates and opioids for pain management has also contributed to an increase in the production and clinical use of synthetic opioids. Whilst there is an overwhelming consensus in the minds of experts that opioids are needed for pain management, their low price, high purity and easy availability from pharmacies has led to their widespread illicit use across the country.

India is the fourth largest producer of pharmaceuticals globally, poised to become the "pharmacy of the world". Because of its vibrant pharmaceutical manufacturing industry, the country is susceptible to diversion of narcotic and psychotropic pharmaceuticals produced by its industry. Common illicitly-used pharmaceuticals are codeine based cough syrups and other narcotic (opioid) painkillers as well as a variety of benzodiazepine tablets - all of which are widely available through retail pharmacies.

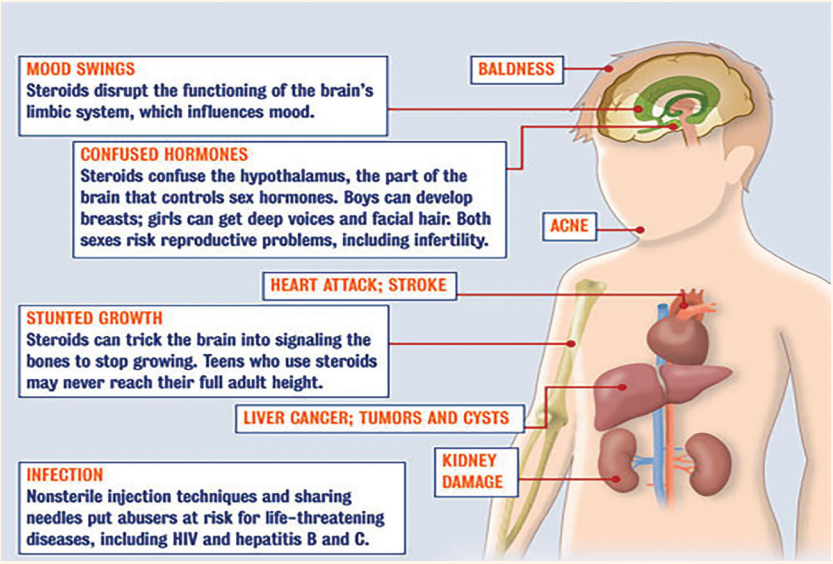
In 2002, the first ever national drug survey was carried out in India, but it was limited to tobacco, alcohol, cannabis and opiates. Since then, the pattern of illicit drug use has changed. The economic growth over the last decade has resulted in the use of new drugs like stimulants, designer drugs and most importantly pharmaceuticals.

It is the considered view of experts that many former as well as current illicit drug users in parts of the country appear to have shifted from narcotics to pharmaceutical use, with evidence of

poly drug use; in some areas like Nagaland, pharmaceuticals (in this case dextropropoxyphene) are the main recreational drugs of choice. This may be because their low cost relative to that of their illegal counterparts outweighs the difference in narcotic or psychotropic potency. A history of difficult political and socio-economic conditions in the north-east as well as its proximity to Myanmar, has led to high levels of use of a range of drugs in that region. Mizoram, for example, shares borders with Myanmar and is an entry point for heroin trafficking. This not only fuels heroin addiction but also creates demand for narcotic and psychotropic pharmaceuticals as cheaper replacements for heroin.

The north-east is not the only region that is negatively impacted by pharmaceutical and injecting drug use. New areas like Punjab, Orissa, Haryana etc., have also emerged as consumers. Though there is no base line data to estimate the nature and extent of the problem in India, experts opines that illicit pharmaceutical use is a major trafficking and health concern.

Effects of prolonged use of prescription drugs:



The main pharmaceutical drugs of abuse in India as identified by experts are as follows:

- Pain killers – Buprenorphine, Spasmo proxyvon
- Codeine based cough syrups
- Injectable opiates - Morphine, Pethidine and Pentazocine (Fortwin)
- Depressants: Diazepam, Lorazepam, Nitrazepam, Alprazolam, Zolpidem
- Antihistamines: Avil, Phenergan
- Benzodiazepines
- Sedatives
- Ketamine
- Anabolic steroids: Nandralone, body building foods

According to local experts in the field of de-addiction psychiatry, the majority of pharmaceutical drug addicts seeking treatment in India are first exposed to the substance in question when it is prescribed to them for a genuine medical condition. This highlights the need for careful management of palliative care; the presence of pain may protect a patient from addiction but if the patient continues – wittingly or not – to take a drug after

having regained his or her normal health status, the risk of addiction rises dramatically, particularly for outpatients who are more likely to sustain a drug habit that was initiated within their home environment.

Like in other countries of South Asia, comprehensive data on the extent of illicit pharmaceutical drug use is lacking in India as well. However, there have been thematic studies which illustrate to a degree, the nature and extent of the problem. These conclude that among those seeking treatment for drug related problems, opiate use accounts for 40 percentage of the total drug use in India of which 14.3% is heroin, 14.2% is opium and pharmaceutical opioids account for 12.1% (WHO Biennium project DAMS Report 2006-7); 6.5% use sedatives/hypnotics. The studies incidentally note that around one quarter of illicit drug users are homeless and 40% have not completed primary school education. Truck drivers are particularly susceptible to drug use. The illicit use of pharmaceuticals is definitely an issue as accepted not only by experts but also by thematic studies.

The problem gets a more serious dimension when the illicit use is through the IDU (Injecting Drug User) route. In India, injecting drug use has spread extensively through many of the north eastern states and urban areas, and recently the states of Kerala, Uttar Pradesh, Bihar, Orissa and Madhya Pradesh, Jammu & Kashmir, Punjab and Haryana are also noticing an increasing number of IDUs. Use of buprenorphine and pentazocine and a variety of sedatives (diazepam, promethazine and pheniramine) is common.

Health care coverage among IDUs in these emerging nuclei in Haryana and Punjab is especially low, with only 0.1 – 8% of respondents in one study reporting to have ever received treatment of services, but never oral drug substitution (Ambekar & Tripathi 2008). This increases the likelihood of users sharing

their injection equipment and indeed the same survey found that between 34% and 94% of respondents had shared needles and syringes.

Estimates of the number of IDUs in India range from over 90,000 (RCSH, 2006) to almost 190,000 (National AIDS Control Organisation, 2006).

However, most sources including the Government of India cite figures nearer the upper end of this range.

("Other Opioids" refers to pharmaceutical narcotics; sedatives / hypnotics refer mainly to benzodiazepines and barbiturates. Source: WHO Biennium project DAMS Report 2006-7).

Dextropropoxyphene is common among IDUs in the north-eastern states, especially in Kohima, Shillong, Jammu and Darjeeling; buprenorphine injection is more widespread in Delhi and Chennai as well as some smaller towns such as Jammu, Bhubaneshwar, Muzaffarpur, Darjeeling and Jamshedpur (UNAIDS 2006b). Injecting drug use in these regions is fuelling an epidemic of blood-borne infections including HIV and hepatitis C. The states of Manipur and Nagaland are now among the top five states in India in terms of HIV infection (disproportionately affecting the 15- to 30-year old population in these states), due mainly to intravenous drug use (INCSR, 2009). NACO 2007 surveillance data shows HIV prevalence among IDUs to be 7.2% and 2009 data shows to be 9.2%.

Laws, Regulations and Enforcement

Indian Regulatory agencies;

1. Ministry of Health and Family Welfare (MoHFW)
2. Drugs Controller General of India (DCGI)

3. State Drug Controllers or Food and Drug Administrators
4. Ministry of Chemicals and Fertilizers
5. NPPA (National Pharmaceutical Pricing Authority)
6. Ministry of Finance (MoF) - Department of Revenue
7. Central Bureau of Narcotics (CBN)
8. Law Enforcement Agencies: Police, NCB, Customs

The regulatory apparatus in India for drugs and pharmaceuticals is rather complicated as there is more than one agency or ministry mandated to perform specific functions. However, the duties are clearly enumerated.

The Ministry of Health and Family Welfare and the DCGI under it act as custodians of the Drug and Cosmetics Act. Each of India's 28 states has a State Drug Controller or Food and Drug Administrator, each operating under his own state's MoHFW and reporting to the DCGI and implementing the provisions of the Drugs and Cosmetics Act.

Pharmaceutical licensing is the function of State Drug Controllers and the allocation of quotas which was hitherto done by them is presently under the charge of the Narcotics Commissioner which is a central authority under the Ministry of Finance, Department of Revenue. However, drug pricing is the mandate of NPPA, which is under the Ministry of Chemicals and Fertilisers.

The Department of Revenue under the Ministry of Finance administers the Narcotics Drugs and Psychotropic Substances Act (NDPS) which is implemented by both central agencies such as NCB, CBN, Customs including DRI, Para-military forces and State agencies such as Police, Excise, Forest and Drug Controllers / Food & Drug Administrators.

According to the assessment of experts, there is need for a greater awareness on the illicit use of pharmaceutical drugs

across the board, and there is a universal need for training of police/regulatory personnel in the laws, investigation, seizure and arrests relating to pharmaceutical trafficking.

Legal and regulatory regimes

The Drugs and Cosmetics Act 1940 is an extensive and highly thorough dictation of the laws, penalties and inspection procedures concerning the manufacture, sale and import of drugs and cosmetics (including quality standards, branding, prohibition etc.). In respect to prescription-only medicines, the Act states that all medicines that are classified under Schedule H and the NDPS Act must be labelled with the symbol "NRx" in red colour and the statement: "Warning: -- To be sold by retail on the prescription of a Registered Medical Practitioner only."

Specific laws governing pharmaceuticals (and illicit) narcotic and psychotropic drugs are further detailed in the Narcotic Drugs and Psychotropic Substances Act (NDPS) 1985. Briefly, the Act restricts the import and export of narcotic and psychotropic substances by any method (including post) and places the authorisation of such activities under the jurisdiction of the Narcotics Commissioner. However, it does not regulate import

and export of preparations containing narcotic drugs below a threshold limit (preparations listed in Schedule III of the Single Convention on Narcotic Drugs, 1961). Customs are also required to approve all such transhipments as per the Customs Act 1962.

The Pharmacy Act was introduced in 1962 to empower state governments to restrict the dispensing of physician prescribed medicines to suitably qualified pharmacists. The Act dictates, among other issues, the criteria for and process of the registration of pharmacists and the constitution and composition of the State Pharmacy Councils. The current legislation is considered to be generally sufficient with the NDPS Act providing for a more stringent penal regime when compared with the Drugs and Cosmetics Act. In some cases there have been conflicts of jurisdiction which have had to be settled by courts of law. Some experts are therefore of the view that there may be need for harmonizing some aspects of the two Acts.

Experts also refer to the need for inclusion of pharmaceutical preparations containing ephedrine and pseudoephedrine in the EXIM (Export Import) policy; these chemicals, which are commonly used as airway dilators in decongestant medicines, are also used as precursors in the manufacture of amphetamine–type stimulants (ATS). ATS precursors are commodities in themselves and highly sought-after worldwide for clandestine ATS manufacture. South Asia, as a region, with India and Sri Lanka in particular, are being targeted by drug organizations to set up clandestine facilities for manufacturing ATS.

The issue of rampant smuggling of cough syrups containing codeine below the prescribed threshold levels from India to Bangladesh, Nepal, Bhutan and Sri Lanka is a matter of some concern. The provisions under the NDPS Act and the Drugs and Cosmetic Act do not recognize these as offences. Therefore, there is a need to look into this issue. The NDPS Act does not make any

exception to sales of narcotic and psychotropic pharmaceuticals through internet. Offline and online transactions are subject to the same restrictions. Several cases have been registered by Indian law enforcement agencies against persons involved in smuggling of pharmaceuticals through online pharmacies. While the transaction and payment is done through the internet, in all such cases, the substances have to be physically transported out of the country and therefore are subject to controls irrespective of the fact whether the transaction is online or through conventional methods. Regulations in this regard are considered important since India is one of the source countries targeted by traffickers running internet pharmacies. There is also a need to include collection of data on licit production and trade of narcotic and psychotropic pharmaceuticals in the country and for establishing a compliance mechanism under the NDPS Act. This has been notified by amending the NDPS Rules through the NDPS Regulation of Controlled Substances) Order 2013.

Distribution, smuggling and counterfeit drugs

TIRUCHIRAPALLI

Dec 10, Sat — RISE 06.22 SET 17.54 — RISE 11.41 SET 02.23

Dec 11, Sun — RISE 06.23 SET 17.54 — RISE 15.34 SET 03.21

Karur Maximum 33 Minimum 22 Thanjavur

Tiruchirapalli Today 31°C

The sky will be partly cloudy. A comfortable morning is likely with a warm day. Night will remain pleasant.

Bid to smuggle prescription drugs by air

Drugs containing psychotropic substances seized from Malaysia-bound woman traveller

R. RAJARAM

TIRUCHI: Amid several cases of gold smuggling by air passengers having been reported, attempts to smuggle prescription drugs containing psychotropic substances through Tiruchi international airport has surfaced now.

The recent seizure of huge quantities of Alprazolam and Zolpidem tablets besides a few bottles containing Codine syrup from a woman air passenger at Tiruchi airport by officials of the Central Bureau of Narcotics (CBN) a few days ago has brought to light the latest case of smuggling of prescription drugs.

Acting on intelligence inputs, a team from CBN, Chennai landed at Tiruchi airport and held Manjula Arrupalli in her mid-50s from whom they seized 8,000 tablets of Alprazolam and 4,000 tablets of Zolpidem besides 20 bottles of Codin Phosphate cough syrup.

The woman, a native of Thanjavur, had cleared immigration formalities and was to board a Malindo Air flight to Kuala Lumpur in the early hours on Monday when the CBN sleuths arrested her on the charge of attempting to smuggle the contraband in her possession.

A search conducted at the house of Manjula, a frequent traveller, thereafter at Thanjavur however yielded nothing. The woman was a "carrier" to whom the consignment was given to be handed over in Malaysia where the seized prescription drugs were in demand, said CBN sources.

This is the first time that prescription drugs containing psychotropic substances have been seized in an international airport in South India, said CBN authorities. The woman was put behind bars and a case booked against her under the Narcotic Drugs and Psychotropic Substances Act.

Days later, the Air Intelligence Unit of Customs arrested U. Ashraf Ali of Madhukur in Thanjavur district at Tiruchi airport on the charge of attempting to smuggle 58 bottles of Codine phosphate syrup to Malaysia for abuse.

Two cases

Although enforcement agencies acted swiftly in both instances, the two cases in quick succession is an indication of attempts to smuggle prescription drugs containing psychotropic substances through air mode.

Easily available across the country, the two prescription drugs are in great demand in Malaysia and Australia as they were said to be widely abused there, say CBN authorities.

The manufacturing cost of these legal drugs prescribed mostly for insomnia patients was cheaper in India than in other countries prompting smugglers to illegally sneak them out from India to countries where they were in great demand.

The sources said in some cases the prescription drugs were used as party drugs and was mixed in alcohol to give a high. Drugs containing narcotics and psychotropic substances without prescription constitute an abuse. Overdose, even with prescription, is also an abuse, says sources.

The collection is said to be done from various pharmacies and smuggled out mainly through the golden triangle - Myanmar, Lao and Thailand - because the money involved is huge in this shady business, the sources further said.

The prescription drugs smuggled into the other country are sold at a higher price by the smuggling network. In Western countries there is strict enforcement with respect to drug dispensation. The greed for money coupled with well-oiled smuggling network has made this shady business thrive, the sources add.

The sources believe that an international network could be behind the recent incident at Tiruchi airport. The woman was only a "carrier" assigned with the task of taking the consignment to Malaysia, they say.

A senior official said there was some procedure to be adhered to by air passengers while carrying prescription drugs containing narcotic drugs and psychotropic substances. The passengers have to get an export authorisation from the Narcotics Commissioner of India before air travel.

There is no exemption for small quantities.

Expert authorisation could also be obtained online from the office of the Narcotics Commissioner of India situated at Gwalior in Madhya Pradesh, the official said.

The drugs which were seized by the sleuths of Central Bureau of Narcotics at Tiruchi international airport recently.

The Hindu Newspaper report on prevention of smuggling of prescription drugs by Central Bureau of Narcotics

India, for example, has the fourth highest production of a vast range of pharmaceutical products at highly competitive prices (Source: Ministry of External Affairs, Government of India) and naturally these valued commodities are subject to smuggling not only because of their easy availability but also because of their price competitiveness. And the pharmaceutical industry is considered by experts to be susceptible to diversion. Hence, most of India's South Asian neighbour countries as well as many other parts of the globe are recipients of smuggled Indian narcotic and psychotropic drugs, the most common types being:

- Benzodiazepines (diazepam-type sleeping pills)
- Codeine-based cough syrups
- Buprenorphine
- Pethidine
- Dextropropoxyphene

The main pharmaceutical drugs of abuse in India

- Pain killers – Buprenorphine, Spasmo proxyvon
- Codeine based cough syrups
- Injectable opiates - Morphine, Pethidine
- Depressants: Diazepam, Lorazepam, Nitrazepam, Alprazolam, Zolpidem
- Benzodiazepines
- Sedatives
- Ketamine
- Anabolic steroids: body building foods

Domestic Sources

Most of the pharmaceutical drugs consumed in India are manufactured locally. The Indian pharmaceutical industry is worth an estimated $12 billion, holds 1-2% of the world market and is growing at an annual rate of around 10%. The Indian pharmaceutical industry makes around 40% of its revenue exporting generic alternatives to patented drugs, chiefly to developing countries. Following the introduction of the Patent Act in 1970 (which restricted or removed patent protection on food and drugs) the erstwhile dominant multinational companies made way for a majority of indigenous businesses. The amendment of the Patents Act in 2005 and the re-introduction of patent law in this sector then began a flurry of mergers from foreign companies. The industry is on a strong growth trajectory but remains fragmented with over 20,000 registered units, of which five are state-owned, with the leading 250 companies controlling 70% of the market.

This high degree of competition - as well as government policies – keeps drug prices low and as such India enjoys a thriving export trade with the United States and Russia as well as developing

countries including its neighbours. Despite the strengths of the pharmaceutical industry, the quantity of prescription drugs containing narcotic or psychotropic substances produced annually in India is unknown.

Each State Drug Controller issues licenses to produce unrestricted quantities of pharmaceutical products without any estimation of the requirements for each drug. This is a major hurdle in understanding the scale of illicit pharmaceutical use in India. However, the Government of India has now designated the Narcotics Commissioner (in the place of state Drug Controllers) of India as the authority for allotment of quota of narcotic and psychotropic substances to manufacturers from the year 2010. India will thus, in the near future, be in a position to estimate its legitimate requirement.

This will also result in a better understanding of the production capacity of the pharmaceutical industry in relation to pharmaceuticals containing narcotic and psychotropic substances. Like in other countries of South Asia, most pharmaceuticals are obtained illicitly through pharmacies, both with and without prescription. Sales mean profit for pharmacists and some traders are willing to stray from ethical codes of conduct when approached by customers requesting scheduled drugs without a prescription, and this is a major factor in sustaining the illicit use of narcotic and psychotropic pharmaceutical drugs. As the chief medium through which the public is exposed to potentially habit forming drugs, a great responsibility rests with the pharmacist to dispense drugs in a legal and ethical manner to prevent the spread of pathological addiction among his or her customers.

Concerns have also been voiced about the quality of doctors writing prescriptions in many parts of the country, for example, one study in a rural region of Varanasi found that almost two thirds of prescriptions written were in an improper manner.

Adding to the issue is the practice of self-prescription by the general population; this exacerbates the misuse of prescription and non-prescription drugs.

Another potential source is the sale of medicines that have passed their sell-by date and can no longer be sold commercially. Drugs companies have also been accused of aggressive marketing campaigns such as discount schemes to promote medicines such as cough syrups for non-therapeutic purposes; some companies are also known to boost sales by offering incentives to medical practitioners for promoting their products. Reports have also been received of theft of stock during transportation and the possibility that diversion from Government hospitals and veterinary clinics may also occur was raised.

India accounts for 10 per cent of the total pharmaceuticals produced in the world. The law required all drugs with 'abuse potential" to be sold only on prescription, but that there was significant diversion from this. Since India is one of the largest manufacturers of pharmaceutical drugs the price of prescription drugs are cheaper. Therefore legally manufactured drugs were diverted for greed of money as the drugs which are meant for abuse, could fetch more profit in black market.

2. Mixing of Alcohol with Prescription Drugs

Mixing of alcohol with prescription drugs will have a devastating effect on the user as it is deadly duo. Regular users of alcohol generally resort to this practice assuming that mixing of alcohol with prescription drugs can give higher booze required for them. The users of alcohol, over a period of time may not feel enough intoxication on given quantity of alcohol as their body develops tolerance to the regular quantity of alcohol. In those circumstances upon ill advice users of alcohol resorting to this practice without knowing the danger involved. The mixing of

these two substances particularly pain medications or sedatives can slow heart rate and breathing, leading to death.

Deadly duo: Mixing alcohol with prescription drugs

This practice is noticed among the regular users of alcohol and also can happen without the knowledge of the user in two ways.

1. May happen to a person who is a regular alcohol user who happened to have prescription drugs on a medical condition on any particular day and

2. May happen to a person who is a regular user of prescription drugs on a medical condition and happen to have alcohol on any one day.

In both the above occasions the users put their life in danger without knowing its physiological action. We are aware of many mysterious deaths and heart attacks suffered by young people where the above practice could be one of the reasons. They get high by ingesting a mix of pills, often with alcohol. These "cocktails" can be extremely dangerous and the consequences of drug-drug interactions can be fatal.

In addition to increased risk for other drug use, adolescents who report nonmedical use of prescription drugs are also more likely to engage in further risk behaviours such as skipping school, bringing drugs to school, getting high at parties, having friends who use marijuana and driving after binge drinking.

Recommendations

Illicit pharmaceutical use is a particularly difficult problem to address. Unlike other illicitly-used drugs that have limited or no medical use, pharmaceutical drugs are essential for public health. The very definition of the word narcotic originates from drugs derived from the alkaloids found in the opium poppy, and every opioid drug discovered or synthesised to date carries some degree of euphoria (well-being-inducing) and relaxant effect. Not strictly a side effect, these properties have therapeutic value in themselves: elevating the mood of a person in severe pain or suffering. The blocking of pain receptors and the elevation of mood have been intertwined by evolution for good reasons, and modern science thus far has been unable to disentangle them, meaning that the most effective painkillers are also narcotics and subjects of illicit use.

Therefore, attempts to tighten leaks in the regulatory system and supply chain where essential medicines are concerned must be conducted with the utmost care. Frightening pharmacists with penalties for improper dispensation has in the past led to the disappearance of scheduled medicines from the pharmacists' shelves - consequently those with genuine needs have gone without treatment. Nonetheless, there are potential measures that can be taken to improve the current situation that avoid jeopardising the requirements of bona fide patients.

Demand and supply Awareness

When new drugs emerge in a country it is important for people, especially the younger generations (who are more liable to

experiment) to be able to recognise them and be aware of their effects, side effects and associated dangers.

In this way the amount of harm caused by illicit substance use will be tempered by knowledge-based risk taking. It is rarely a casual user's intent to become an addict, and addiction does not set in immediately; in many cases a lack of awareness that a drug can be addictive can lead to ill-informed regular use of the drug. Because it is not practical for every teenager in India to learn the entire narcotic and psychotropic pharmacopeia, regional monitoring of drug trafficking is imperative for local authorities to know how to prioritise awareness campaigns based on the likelihood of exposure to different chemicals.

To be more focused and effective, these awareness campaigns must be implemented in schools during early teenage years before initial exposure. Public campaigns to alert and educate people on the potential dangers of drugs have traditionally focused on illicit substances; however, some licit drugs are in many cases more addictive and possibly harmful than a good many illicit ones. Given the easier availability of many prescription medicines, this anomaly needs to be corrected to enable patients and adventurous young people to make more informed decisions regarding their health and lifestyles.

Campaigns conducted by pharmacist associations to raise awareness among pharmacy traders of the abuse liability of the drugs they sell will encourage them to bolster the scrutiny of their codes of conduct and ethical practices in an informed manner. This should be combined with nation-wide dissemination of good practices among doctors and other medical professionals as well as awareness and sensitisation programmes for the general public, government agencies and policy makers, and judiciary and stake holders. A particular emphasis on the latter should

be placed on the psychological and other health risks associated with the injection of drugs.

Leaflets produced under UNODC's 'I Decide – I won't use drugs' campaign

The introduction of a system to deal with the disposal of medicines that have passed their shelf lives would also prevent the diversion of this source.

Capacity and implementation

Although the legal and regulatory regimes appear to be generally adequate, they require proper and better implementation by concerned agencies. For this, policy makers need to be sensitised to the issue of illicit pharmaceutical use and law enforcement agencies need to be properly motivated and trained to recognise the most dangerous drugs like narcotic ampoules. A series of training sessions, workshops and brainstorming sessions will

help law enforcers and policymakers gain a better command of the vast and wordy narcotic and psychotropic pharmacopeia.

3. Challenges on NPS (New Psychoactive Substances)

New psychoactive substances — a threat to human health and well-being

The unprecedented emergence in recent years of potentially dangerous psychoactive substances that are not under international control has led to their increased abuse, hospital emergency admissions and sometimes fatalities. These new psychoactive substances (NPS), while often marketed as "legal" alternatives to substances under international control, may inadvertently pose a public health risk.

The harmful effects of NPS as described in reviews by the World Health Organization (WHO) Expert Committee on Drug Dependence and in other related literature include: tolerance, withdrawal symptoms and dependence-producing properties in the case of synthetic cannabinoids; high-frequency drug injection and the associated risk of transmission of blood-borne infectious diseases such as HIV, and emergency room admissions and fatalities due to the use of synthetic cathinones such as mephedrone; and overdoses due to the highly potent phenethylamine substances often sold as LSD.

The identification and detection of NPS form the basis of effective law enforcement responses and health interventions. This key issue is reflected in Commission on Narcotic Drugs resolution, entitled "Enhancing international cooperation in the identification and reporting of new psychoactive substances and incidents involving such substances", which underscored the need to detect, analyse and identify new psychoactive substances as part of a scientific evidence-based, balanced, comprehensive

and integrated approach to drug policy that seeks both to reduce demand and to restrict supply in order to prevent abuse. Unfortunately, forensic laboratory capacity in most countries is either lacking or not adequate to support the scientific evidence-based approach.

Four years after the Commission on Narcotic Drugs first expressed concerns regarding the emergence and associated dangers of NPS in its resolution, entitled "Promoting international cooperation in responding to the challenges posed by new psychoactive substances", NPS continue to emerge on the market at a fast pace, while the understanding of their associated health and social harms remains limited.

Understanding the synthetic drugs problem

The 2009 Political Declaration and Plan of Action on International Cooperation towards an Integrated and Balanced Strategy to Counter the World Drug Problem recognized systematic global monitoring as the key to understanding the synthetic drugs problem. In response to the increased NPS threat, UNODC began to gradually incorporate NPS in its global synthetics monitoring analysis reporting and trends (Global SMART) programme. Set up in September 2008, the Global SMART programme had been helping targeted Member States to improve their capacity in monitoring synthetic drugs through the generation, management, analysis, reporting, and use of information on those types of drugs.

In 2011 the Global SMART programme began raising awareness of the dangers of NPS and in March 2013 it presented its first global report entitled "The challenge of new psychoactive substances", which provided a consolidated analysis and a comprehensive overview of the nature and magnitude of the challenges associated with the NPS phenomenon.

Pursuant to Commission on Narcotic Drugs resolution, entitled "Enhancing international cooperation in the identification and reporting of new psychoactive substances", UNODC launched in June 2013 the first international monitoring system on NPS called the Early Warning Advisory (EWA). Since its inception, EWA has improved the understanding of the synthetic drugs market, particularly of NPS and has served as a knowledge hub and platform for sharing best practices including control measures, laboratory analysis and NPS legislation. EWA has also served countries as a resource for the identification and prioritization of candidate substances for scheduling notification as specified by the International Drug Control System.

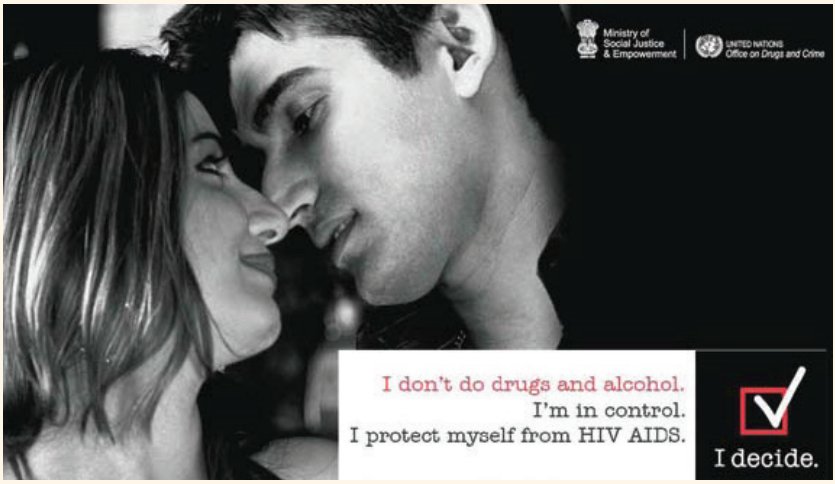
EWA continues to work towards enhancing the ability of countries to anticipate NPS threats and to reduce public health risks through its early warnings. The global monitoring of NPS in the last 7 years has shed light on the complexity of the problem, particularly its interplay with existing drug markets, and how countries respond at the national, regional and international levels.

Key features of new psychoactive substances

Threat to public health and safety

The risks and adverse effects to public health associated with NPS, including harm to young people, are a global concern in several regions of the world. The use of synthetic cannabinoids for instance, has been linked to fatal and non-fatal intoxications, instances of driving under the influence of those substances, as well as seizures, tachycardia and hypertension. Many adverse effects have also been linked to synthetic cathinone's. Mephedrone, for instance, has been associated with binge use (i.e. repeated use of the drug within a short period of time) while Methylenedioxypyrovalerone (MDPV) has been associated with severe agitation, violent behaviour, tachycardia, psychosis,

paranoia and anxiety. Fatal and non-fatal intoxications involving MDPV have also been reported. The danger associated with NPS use is accentuated by the intentional mislabelling of products containing those substances and thus their unknown purity and composition.



Poster produced under UNODC's 'I Decide – I won't use drugs' campaign

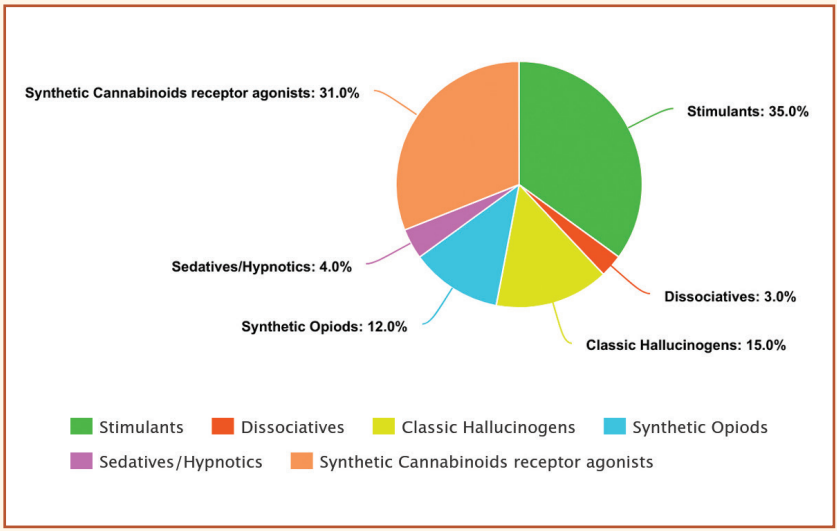
The injection of synthetic drugs, including amphetamine-type stimulants (ATS) and NPS, has also been reported by several countries. People who inject ATS/NPS are reported to be at high risk of acquiring and transmitting HIV and other blood-borne diseases because their injection rate is higher and are thus more likely to share needles and other contaminated injecting paraphernalia and exhibit high-risk sexual behaviour.

Unprecedented rate of emergence of a global dimension

NPS have become a global phenomenon with 141 countries and territories from all regions of the world having reported one or more NPS. Up to November 2023, 1,230 substances have been reported to the UNODC Early Warning Advisory (EWA) on NPS by Governments, laboratories and partner organisations. NPS

available on the market have similar effects as substances under international control such as cannabis, cocaine, heroin, LSD, MDMA (ecstasy) or methamphetamine. Looking at the effects of synthetic NPS that have been reported until November 2023, the majority are stimulants, followed by synthetic cannabinoid receptor agonists and classic hallucinogens with a notable increase in synthetic opioids in recent years.

Synthetic new psychoactive substances by effect group, up to November 2023:



Source: United Nations Office on Drugs and Crime, Early Warning Advisory on NPS, 2023.

Transient nature of some new psychoactive substances

Even though more countries report a growing number of substances every year, some NPS are transient in nature. Many NPS have only been reported by a small number of countries in a given year and some seem to have disappeared completely from the market. However, some substances such as JWH-018 and

mephedrone, which have been on the market since monitoring began in 2008 and which are now under international control, remain available on illicit drug markets.

Diversity

New psychoactive substances are very diverse in terms of their effects and chemistry and those identified to date mimic the effects of the six main groups of illicitly-used substances controlled under the international drug conventions, which are opioids (e.g. heroin and morphine), cannabinoid agonists (e.g. cannabis), psychostimulants (e.g. cocaine and amphetamine-type stimulants), classical hallucinogens (e.g. LSD and 2C-B), anaesthetic dissociatives (e.g. phencyclidine) and sedatives/hypnotics (e.g. diazepam). Synthetic cannabinoids, for instance, are sold as a "legal" herb-based alternative to cannabis, targeting the cannabis market, which is also the largest drug market.

Heterogeneity

Different patterns of NPS emergence have been observed across the different regions of the world, both in terms of the presence of NPS groups in specific regions and in the number of NPS reported by individual countries. Europe is the region that has reported the highest number of substances while ten countries that have reported the largest number of substances are spread across three regions: Asia (Japan), Europe (Finland, Germany, Hungary, Russian Federation, Sweden, Turkey, United Kingdom of Great Britain and Northern Ireland) and North America (Canada and the United States of America).

The Americas (excluding Canada and the United States) and East and South-East Asia have also reported significant numbers of NPS. In other regions, including Africa, Central America, the Near and Middle East and Central and South-West Asia, data

on NPS emergence remain limited, making it very difficult to monitor and assess the impact of NPS in these regions.

New psychoactive substances are sold in mixtures

Seizure reports indicate that NPS are frequently sold in mixtures with other substances, which may or may not be known to the user. Furthermore, since limited or no scientific information is available on the effects that such combinations may have, users of those mixed substances could be exposed to considerable health risks. NPS products have been found to contain mixtures of NPS with controlled substances such as cocaine, MDMA and amphetamine or mixtures of different NPS within the same group (e.g. among synthetic cannabinoids) or across different NPS groups. In 2013, Europe reported more than 110 NPS products that combined up to 7 different NPS.

Detection and identification of new psychoactive substances

The detection and identification of NPS are critical to both supply reduction and health intervention strategies and to the collection of accurate data for effective policymaking. Unfortunately, relevant institutions in several countries face challenges to detect and identify NPS in both seized materials and in biological specimens from affected users.

Insufficient capacity to identify, analyse and report NPS is recognized as a factor in the low level of information received from some countries. Thirty out of 45 countries that provided information on legislation in the UNODC survey on NPS indicated that they experienced challenges in implementing legislation to control NPS. Of those 30 countries, 80 per cent reported that their law enforcement authorities (such as customs and police) face difficulties identifying controlled NPS. Only nine per cent of

the total countries surveyed reported that identification for law enforcement authorities was not a problem.

Market Resilience

The NPS market is resilient, adapting very quickly to changes introduced by legal controls and to substances forced out of the market due to their harmful effects. Of the 30 countries that experienced challenges implementing legislation to control NPS, 23 confirmed that NPS under national control were being replaced rapidly by new uncontrolled substances. Substances under national control in one country resurfaced in countries with weaker legal frameworks where NPS still remain legal or on the Internet in websites that can only be accessed with anonymising software.

A good example of NPS market resilience involves substances belonging to the synthetic cannabinoids group. This group of substances evolves constantly to keep up with a market that is now more responsive to legislation. Chemical families with successive structural modifications evolve continuously to keep those substances in an ambiguous legal status. For instance, the emergence of the naphthoylindoles to which JWH-018 belongs, was quickly followed by the emergence of naphthoylindazoles (e.g. THJ-018) and more recently of indazole carboxamides (e.g. AKB-48).

The role of the Internet

The Internet plays an important role in the supply of NPS and regular mail shipments are recognized as one of the main distribution methods for those substances. The Internet is a challenging distribution channel because it is an easy, anonymous and low-risk way to supply NPS and it offers high rewards to suppliers and retailers. Internet websites participating in the

trade/traffic of NPS may be based in countries different from those where NPS are manufactured and/or supplied to, and the disparity of laws in various countries makes it very challenging to find a common approach for the prosecution of violations. A further complication is the sale of products containing controlled NPS on the "darknet", which can only be accessed with anonymizing software.

Measures taken

A resolution entitled "Enhancing international cooperation in the identification and reporting of new psychoactive substances and incidents involving such substances", the Commission on Narcotic Drugs recommended, inter alia, that "Member States exchange ideas, best practices and experiences in adopting effective responses at the national and regional levels to address the challenges posed by new psychoactive substances, such as through the use of early warning systems to identify potential threats, new and existing legislation, temporary restriction measures in response to harmful effects on public health, enforcement initiatives, and prevention, demand reduction and treatment strategies".

While some progress has been made by Member States and the international community, significant efforts are still necessary to effectively address the NPS phenomenon.

Prevention and risk communication

Effective risk communication is also key to preventing and controlling NPS. Some Member States have incorporated NPS in their drug prevention awareness programmes, in some cases using the Internet to disseminate information and raise awareness on NPS risks and related services. Despite these efforts, more progress is needed, particularly in: (a) raising

public awareness of the risks of NPS from a clear legal stance, (b) improving education and sensitization of first respondents, and (c) devising strategies to reduce the harmful consumption of NPS. From an international perspective, information on NPS risk assessments is made available on an ongoing basis on the UNODC EWA list of announcements. Published literature on toxicology, pharmacology and use of NPS is also accessible through EWA.

Prioritization of new psychoactive substances

Not all NPS that have emerged on the global market satisfy the criteria for harm required for international control. A wide range of legislative responses has been adopted at the national level to control NPS that are considered a health threat. Drawing on these national controls and bearing in mind the diversity of NPS on the global market, the 2014 UNODC-WHO Expert Consultation on NPS recognized the need to prioritize the international control of NPS that are more persistent, prevalent and harmful. The Expert Consultation concluded that a phased approach to NPS prioritization was required, with the two main criteria for consideration being evidence of harm (or potential harm) of a substance, and the prevalence (or proxies for prevalence) of its use.

Efforts to prioritize NPS that require an international response have succeeded in keeping the international drug control system focused on those that are more persistent, prevalent and harmful. The prioritization process consists of various stakeholders including the International Narcotics Control Board (INCB), UNODC and the European Monitoring Centre for Drugs and Drug Addiction, providing information to assist WHO in the selection of substances for review and their risk assessment.

Notwithstanding the initial success in prioritizing substances for international control, the creation of a comprehensive

global evidence base for prioritization, as a foundation for the international control of harmful NPS, continues to be hampered by difficulties in the detection and identification of NPS by some Member States. The capacity of forensic laboratories in both health care and law enforcement is key to the compliance of governments with the provisions of the international drug control treaties and thus needs to be strengthened. Various aspects of drug control depend on the ability of forensic laboratories to identify NPS, including the development of measures that individual governments can take to combat drug trafficking and abuse as well as governments' fulfilment of their reporting obligations under the international drug control treaties.

Chapter - IV

The Drug Law - Draconian?

1. Basis of the global Drug control system

In 1909, a century ago, drugs were not regulated and widely abused. More than 3000 tons of morphine equivalent i.e., opiates was estimated to be consumed in China alone. The International Opium Commission, convened in Shanghai, China, initiated to change that situation and spurred efforts to create an international drug control system. This was the commencing point for an international treaty system which today rests on the three main international drug control treaties:

- the 1961 Single Convention on Narcotic Drugs,
- the 1971 Convention on Psychotropic Substances and
- the 1988 United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances.

International conventions that deal with drugs

- *United Nations Convention on* Narcotics Drugs,1961
- *United Nations Convention on Psychotropic Substances, 1971*
- *United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988*

Multilateral drug control should be considered one of the greatest achievements of the 20th century. Over 95 per cent of United Nations Member States are party to the three Conventions covering 99 per cent of the world's population making them some of the most widely accepted international instruments in the world. The three major international drug control treaties, are mutually supportive and complementary.

An important purpose of the first two treaties is to codify internationally applicable control measures in order to ensure the availability of narcotic drugs and psychotropic substances for medical and scientific purposes, and to prevent their diversion into illicit channels. They also include general provisions on illicit drug trafficking and drug abuse.

The 1988 United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances extends the control regime to precursors, and focuses on establishing measures to combat illicit drug trafficking and related money-laundering, as well as strengthening the framework of international cooperation in criminal matters, including extradition and mutual legal assistance.

The three conventions attribute important functions to the Commission on Narcotic Drugs and to the International Narcotics Control Board:

The Commission on Narcotic Drugs, composed of 53 Member States elected by the Economic and Social Council for a four-year term, is the central policy-making body with regard to drug-related matters, including the monitoring of the global trends of illicit drug trafficking and abuse. This functional commission of the Economic and Social Council adopts and recommends for adoption by the Council or to the General Assembly through the Council, resolutions on new concerted measures or agreed

policies to better address the drug phenomenon. It decides whether new substances should be included in one of the schedules of the conventions and if changes or deletions in the schedules are required.

The International Narcotics Control Board is a permanent and independent body, consisting of 13 members, who are elected for a five-year term by the Economic and Social Council on the basis of their competence and serve in their personal capacity. The Board monitors the implementation of the conventions and, where appropriate, makes recommendations to States. It also administers the statistical control of drugs on the basis of data supplied by Governments and assesses world requirements of licit drugs with a view to the adaptation of production to those requirements. It gathers information on illicit trafficking, and submits an annual report on developments in the world situation to the Commission on Narcotic Drugs and to the Economic and Social Council.

UNODC (United Nations Office on Drugs and Crimes) has an important role in assisting these bodies in performing their treaty-based functions, and in assisting States Parties in the implementation of their obligations under the international drug control treaties.

2. The Indian Drug Law

The statutory control over narcotic drugs was being exercised under the Opium Act, 1852, The Opium Act, 1878 and The Dangerous Drugs Act, 1930. The provisions of these enactments were found to be inadequate because of the passage of time and developments in the field of illicit drug traffic and drug abuse at national and international level. To consolidate and to amend the existing laws relating to narcotic drugs a comprehensive legislation was considered to be necessary. With the passage of

time and the developments in the field of illicit drug traffic and drug abuse at national and international level, many deficiencies in the existing laws have come to notice.

There was an urgent need for the enactment of a comprehensive legislation on narcotic drugs and psychotropic substances which, inter alia, should consolidate and amend the existing laws relating to narcotic drugs, strengthen the existing controls over drug abuse, considerably enhance the penalties particularly for trafficking offences, make provisions for exercising effective control over psychotropic substances and make provisions for the implementation of international conventions relating to narcotic drugs and psychotropic substances to which India has become a party. Accordingly, the Narcotic Drugs and Psychotropic Substances Bill, 1985 was enacted on 16th September, 1985, and the Act is popularly known as (NDPS Act).

The NDPS Act prohibits, except for medical and scientific purposes, the manufacture, production, possession sale, purchase, transport, warehouse, use, consumption, import inter-state, export inter-state, import into India, export from India, or transhipment of narcotic drugs and psychotropic substances. The NDPS Act, 1985 has been amended twice since then viz. the NDPS (Amendment) Act, 1989 and the NDPS (Amendment) Act, 2001.

Punishment for Contravention;

Whoever, in contravention of any provisions of the Act shall be punishable with rigorous imprisonment of minimum One year and maximum 20 years with fine which may extend from ten thousand rupees to two lakh rupees. There is a provision for a mandatory death penalty prescribed in the Act.

Offences under this Act are cognizable and non-bailable. The Act is very stringent as the law presumes culpable mental state.

Whoever, in possession of any narcotic drugs or Psychotropic substances or controlled substances shall be presumed that the person in possession has culpable mental state and the Court shall presume the existence of such mental state. It is upon the accused person to prove that he had no such mental state with respect to the possession of the substance or the act charged as an offence in the prosecution. The burden of proof in the offences under this Act lies with the accused person unlike in the offences and crimes in other Acts where the burden of proof lies with the prosecution.

3. The Law Enforcing Agencies

The NDPS Act 1985 has been enacted by the government to combat the illicit trafficking of narcotic drugs, psychotropic substances, controlled chemicals as specified by the Government. It provides for prosecution of offenders, deterrent punishment and forfeiture of illicit property acquired from drug trafficking.

The Governments' policy has been to promote their use for medical and scientific purposes while preventing their diversion from licit sources, and prohibiting illicit traffic and abuse. Unlike the earlier Opium Acts and the Dangerous Drugs Act which it replaced, the NDPS Act has given the power of enforcement to various central and state law enforcement agencies, thus spreading the net of law enforcement far and wide. In NDPS Act it is also possible for the Central and State Governments to notify any new class of officers of any department to enforce.

The NDPS Act has created statutory authorities such as the Narcotics Commissioner, the Competent Authority and the Administrator. The organization headed by the Narcotics Commissioner is known as the Central Bureau of Narcotics (CBN). Another authority called the Narcotics Control Bureau

was created under the Act. Both these authorities have specified functions.

Government business is divided in the Central Government as per the Allocation of Business Rules. As per these Rules, the NDPS Act is administered by the Ministry of Finance, Department of Revenue. However, matters pertaining to Drug Demand Reduction are handled by the Ministry of Social Justice & Empowerment (MSJE). MSJE supports various NGOs involved in Drug Demand Reduction. Ministry of Health, Government of India, which is responsible for all health issues, runs several drug de-addiction centres in the Government hospitals across the country. The Narcotics Control Bureau, under the Ministry of Home Affairs (MHA), coordinates actions by various functionaries (Central and State) under the NDPS Act.

The State Governments also have their own Health Departments and Social Welfare Departments each of which has its own set of activities relating to Drug Demand Reduction.

Training of Tamil Nadu Police DSPs on Drug law enforcement

In General, any Law is enforced by a competent law enforcing agency and the law authorises the officers of that particular agency as the proper officer for enforcement. But the NDPS Act envisages a multi-agency enforcement system comprising of a number of Central Government enforcement agencies for effective control and prevention of illicit production, manufacture, distribution, trade, etc. of narcotic drugs and psychotropic substance. Such as -

1. Narcotics Control Bureau
2. Central Bureau of Narcotics
3. Directorate General of Revenue Intelligence
4. Commissionerates of Customs
5. Commissionerates of Central Excise
6. Coast Guard and

State Governments vary from State to State, usually:

1. State Police
2. State Excise Officers

As regards the identification and destruction of illicit opium and cannabis crops the Central Economic Intelligence Bureau (CEIB) is mandated with the satellite survey of suspected areas and to coordinate the survey and share the information with CBN and NCB. The identification and destruction of illicit opium and cannabis crops is entrusted with

Central Government

1. Central Bureau of Narcotics, Gwalior, DoR, GOI
2. Narcotics Control Bureau, MHA, GOI.

4. The Central Agencies

There are two major Central Agencies enforcing exclusively the Drug law of the Country namely Central Bureau of Narcotics

functioning under the Ministry of Finance and Narcotics Control Bureau functioning under the Ministry of Home.

A. Central Bureau of Narcotics

The use of opium for medicinal purposes in India can be traced back as far back as 1000 AD where it finds mention in ancient texts such as "Dhanwantri Nighantu" as a remedy for variety of ailments. During the reign of Emperor Akbar (1543 to 1605) opium was cultivated extensively in the Malwa (in MP) and Mewar (in Rajasthan) regions. The opium poppy contains alkaloids such as morphine, codeine, thebaine, narcotine, papavarine which have analgesic, anti-tussive and anti-spasmodic properties.

During the British East India Company Rule, collection of revenue from opium was made part of fiscal policy and various Opium Agencies such as the Bengal, Benaras, Bihar, Malwa Agencies were formed over time. Prior to 1950, the administration of the Narcotics Laws, namely, the Opium Act of 1857 & 1878 and the Dangerous Drugs Act 1930 vested with the Provincial Government. The amalgamation of these Agencies laid the foundation of the Opium Department in November, 1950 which is presently known as Central Bureau of Narcotics (CBN). The headquarters of Central Bureau of Narcotics was shifted from Shimla to Gwalior in 1960.

Photograph of the author with licit cultivator at Neemuch, Madhya Pradesh.

The Major responsibilities of CBN, cover, inter alia:

- Supervision over licit cultivation of opium poppy in India which is spread across 22 Districts 102 Tehsils/ Parganas in the States of Madhya Pradesh, Rajasthan and Uttar Pradesh.
- Preventive and enforcement functions especially in the three poppy growing States.
- Investigation of cases under the NDPS Act, 1985 and filing of complaint in the Court.

Licit Cultivation

Licit cultivation is carried out in India in selected tracts notified by the Central Government annually in the States of Madhya Pradesh, Rajasthan and Uttar Pradesh. Licences are issued by the CBN to eligible cultivators in the above three States as per the General Conditions relating to Grant of Licence framed by the Central Government. The most important criteria for eligibility is the tendering of certain Minimum Qualifying Yield (MQY) per hectare as fixed by the Central Government annually for the particular crop year. Cultivators who tender the said MQY and fulfil other conditions of the licence prescribed in the General Conditions are eligible for issue of licence.

Licit cultivation at Javasia village in Madhya Pradesh

Licences are issued annually for a crop year which commences from 1st October and ends on 30th September of the following

year. CBN issues licences to eligible cultivators for licit cultivation in these notified tracts in October every year. The cultivators are required to tender their entire produce to the Government. For this purpose, the Central Government announces a Minimum Qualifying Yield of certain number of kilogrammes of opium per hectare.

By the end of March, the collection of opium from the plant is almost complete. The opium so procured is sent to the Government Opium and Alkaloid Factories situated at Neemuch and Ghazipur. These factories are under the independent control of the Chief Controller of Factories, whose headquarters at New Delhi. A part of such opium is converted to Alkaloids for supply to manufacturers of medicines (about 150-200 tons). A large quantity of raw opium is however exported out of India for medicinal purposes.

The main importing countries are USA, Japan, Hungary, UK, France and Thailand.

B. Narcotics Control Bureau

The Narcotics Control Bureau was created under the Finance Ministry, Government of India in March 1986 in terms of Section 4 (3) of the Narcotic Drugs and Psychotropic Substances Act, 1985. The notification dated 17-3-1986 constituting the NCB sets out the following charter for the Bureau:

- Coordination of actions by various officers, State Governments and other authorities under the principal Act, the Customs Act, 1962, the Drugs and Cosmetics Act, 1940 and any other law for the time being in force in connection with the enforcement of the principal Act.
- Implementation of the obligations in respect of counter-measures against illicit traffic under various international conventions.

- Assistance to the concerned authorities in foreign countries and concerned international organizations with a view to facilitating coordination and universal action for prevention and suppression of illicit traffic in narcotic drugs and psychotropic substances.
- Coordination of actions taken by the Ministry of Health and Family Welfare, the Ministry of Welfare and other concerned Ministries, Departments or Organisations in respect of matters relating to drug abuse.

Later the NCB was carved out of the Finance Ministry and shifted to the Home Ministry in 2003.

Activities done by NCB

Drug abuse along with the abuse of alcohol coupled with smoking of tobacco products is taking a heavy toll on the health of the youth. Youth in our country is especially vulnerable to this menace. It entails not only health costs but also economic and social costs. To summarize, the spread of drug abuse among the youth has starting hurting the foundation of our society.

NCB in its endeavour to spread awareness against drug abuse has decided to directly address the students their parents, teachers and counsellors with the objective to explain the deleterious effects of drugs, the responsibility of parents and teachers and what each one of us can do.

Narcotics Control Bureau, under the Ministry of Home Affairs, Government of India is the Central Nodal Authority on all drug related issues in India. Its mandate includes enforcement of the laws against trafficking of drugs as also coordination among various Ministries issues relating to drug abuse and its prevention. Narcotics Control Bureau organizes awareness programmes so as to contain the spreading menace of drug abuse engulfing all sections of the society. Organising awareness programs in Schools and Colleges.

Chapter - V

Socio Economic Impact

1. Socio – Economic Impact of Drug Abuse

Social consequences of drug abuse and trafficking

A. Family and community

There is an extensive literature on how the rapid social, economic, and technological changes, characteristic of the present age, influence families and communities. Much of the literature is qualitative in nature. While there are doubtless many links between the findings of such literature and the problems of drug abuse, exploring these links is beyond the ambit of this chapter.

- Injecting Drug Use- spreads HIV/ AIDS/Hepatitis
- Linkage of drugs trafficking with terrorism.
- Damage to the physical, psychological, moral and intellectual growth of the youth.
- Juvenile Crime/ Delinquent Behavior.
- Traffic Accidents.
- Infections.
- Violence.

Impact of Drug Abuse

The disintegration of the family appears to be related, in some way, to problems of substance abuse. The country study carried out by UNRISD (United Nations Research Institute for Social Development) and the United Nations University on Mexico, for example, shows that illicit drug abuse correlates more strongly with the disintegration of the family than with poverty.

Similarly, the country study in the same series on the Lao People's Democratic Republic found that in areas where social controls exercised by the family and the community had broken down, opium and heroin consumption became prevalent among young men, women and children, and affected as much as 10 per cent of the population. The country study on Thailand attributes increasing use of heroin and psychotropic substances to urbanization, rapid cultural change and a breakdown in family cohesion.

The relationship could also work the other way, with substance abuse straining family relationships and ultimately making families dysfunctional; transforming families from an asset of society into a burden. Although families have a powerful influence on shaping the attitudes, values and behavioural patterns of children and thus preventing substance abuse, peer groups often prove to have an even stronger influence. The negative influence of peers appears to increase when parents abdicate their traditional supervisory roles. Family factors thought to lead to, or intensify, drug abuse include prolonged or traumatic parental absence, harsh discipline, failure to communicate on an emotional level and parental use of drugs.

Lack of household stability triggered by low and irregular income and unemployment may increase the stress on the family and its vulnerability to drug abuse. This opens a wide field for possible government action to reduce such vulnerability.

While the family itself can be the source of drug problems, it can also be a potent force for prevention and treatment. There has been increased acceptance of family therapy, where more than one member of the family is involved simultaneously in therapy sessions. As most families are supported and cared for by women, women frequently play a key role in teaching the young, ensuring that health-care is provided, and maintaining links with and mobilizing community support where necessary.

The recognition and effective utilization of women as resources for drug prevention and treatment can therefore improve efforts to reduce both the supply of and demand for drugs. Indeed, the family unit as a whole has a clear interest in preventing individual family members from falling prey to drug abuse, and thus could become a powerful ally of government and community prevention programmes.

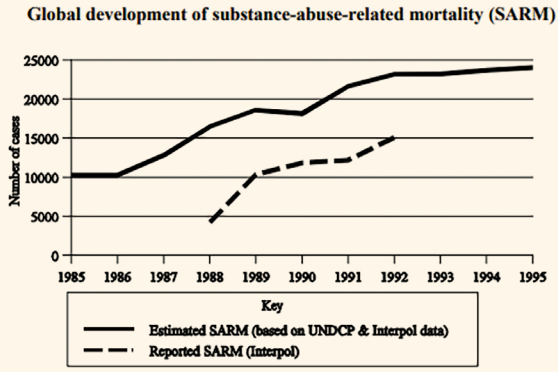
B. Health

The negative impact of drug abuse on health is obvious and scientifically established. The toxic effects and addiction risk of the major psychoactive drugs, licit as well as illicit are shown in following Table.

In the United States alone, there were 532,000 drug-related emergency room visits in 1995, up from 404,000 in 1988: an increase of more than 30 per cent. This clearly demonstrates the magnitude of drug-related health problems, both for the addicts concerned and for society, which is burdened with the health costs related to drugs abuse.

The substances most commonly associated with drug-related deaths are heroin and other opiates, cocaine, and, to a lesser extent, barbiturates and amphetamine-type stimulants, notably methamphetamine. Depending on the dosage, substances such as benzodiazepines, hallucinogens and cannabis have a negative

impact on health. These substances do not usually cause death directly but they may be associated with fatal accidents. Though the mortality risk from consumption of illicit drugs is a matter of concern, it should be noted that the existing drug control mechanisms (prevention, education and law enforcement), although unable to prevent substance-abuse-related mortality (SARM), do seem to have prevented the actual number of SARM cases from reaching the levels currently being experienced with the abuse of licit psychoactive substances. While alcohol and tobacco account for nearly 5 million deaths per year, estimates of the number of drug-related deaths of injecting drug users (IDUs) amount to a maximum of 200,000 cases per annum globally. Officially reported cases of SARM are significantly lower. Interpol reported about 15,000 cases in 1992; if Interpol and UNDCP data are combined and some extrapolation is carried out, the total number of SARM cases reported is still less than 25,000 globally (1995). Because of the lack of adequate reporting in a large number of countries, however, there is a bias towards under-representation in the figures provided below.

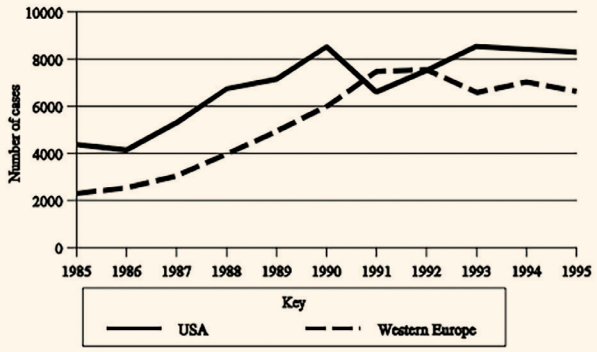


Sources: UNDCP and ICPO/Interpol.

Given an estimated global drug-injecting population of 5.3 million in the early 1990s, the ratio of drug-related death to

drug-injecting population, using the estimate of 200,000 deaths of IDUs, would be some 0.4 per cent. With official United States estimates of the size of the illicit drug-abusing population at 12 million during 1993/94 and of the number of SARM cases at around 8,500 per year according to the Drug Abuse Warning Network (DAWN), or 13,000 per year (United States National Centre for Health Statistics), the drug-related mortality rate in the United States was 0.07 to 0.1 per cent of current drug abusers. Relating the number of deaths to hard-core abusers, i.e. those using drugs at least weekly (some 2.7 million people in 1993/94), the drug-related mortality rate was 0.3 to 0.5 per cent of hard-core abusers in the United States. The data suggest that while serious health problems for drug abusers are the rule, drug-related death still seems to be the exception. The dramatic increase of SARM since the mid-1980s has, nevertheless, become a matter of public policy concern.

Substance-abuse-related mortality, United States[b] - western Europe[a] (1985-1995)



Sources: UNDCP ARQ, ICPO/Interpol, EMCDDA, Estimates

a Western Europe: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom; 382 million people.

b United States of America: 260 million people.

Toxic effects and addiction risk of major illicit and licit psychoactive substances a/

S.No	Drug Category	Acute Toxicity	Chronic Toxicity	Risk
1	Alcohol and related drugs (benzodiazepines, barbiturates)	Psychomotor impairment, impaired thinking and judgement, reckless or violent behaviour; lowering of body temperature, respiratory depression	Hypertension, stroke, hepatitis, cirrhosis, gastritis, pancreatitis,c/ organic brain damage, cognitive deficits, foetal alcohol syndrome,c/ withdrawal effects: shakes, seizures, delirium tremens	3
2	Cocaine, amphetamines	Sympathetic overactivity: hypertension, cardiac arrhythmias, hyperthermia; acute toxic psychosis: delusions, hallucinations, paranoia, violence, anorexia	Paresthesias, stereotypy, seizures, withdrawal depression, chronic rhinitis, perforation of nasal septum	1
3	Caffeine	Cardiac arrhythmias, insomnia, restlessness, excitement, muscle tension, jitteriness, gastric discomfort	Hypertension, anxiety, depression, withdrawal headaches	5
4	Cannabis (marijuana, hashish)	Psychomotor impairment; synergism with alcohol and sedatives	Apathy and mental slowing, impaired memory and learning (brain damage?), impaired immune response,b/	4
5	Nicotine	Nausea, tremor, tachycardia; high doses: hypertension, bradycardia, diarrhoea, muscle twitching, respiratory paralysis	Coronary, cerebral and peripheral vascular disease, gangrene, gastric acidity, peptic ulcer, withdrawal irritability, impaired attention and concentration, retarded foetal growth, spontaneous abortionb/	2

S.No	Drug Category	Acute Toxicity	Chronic Toxicity	Risk
6	Opiates	Sedation, analgesia, emotional blunting, dream state; nausea, vomiting, spasm of ureter and bile duct; respiratory depression, coma, synergism with alcohol and sedatives; impaired thermoregulation; suppression of sex hormones	Disorders of hypothalamic and pituitary hormone secretion, constipation, withdrawal cramps, diarrhoea, vomiting, gooseflesh, lacrimation and rhinorrhea	2
7	Hallucinogens (LSD, PCP)	Sympathetic overactivity; visual and auditory illusions, hallucinations, depersonalization; PCP only: muscle rigidity, hyperpyrexia, ataxia, agitation, violence, stereotypy, convulsions	Flashbacks, depression, prolonged psychotic episodes	5

a/Listed here are the effects due to the drugs themselves. As these effects are dose related and subject to individual variation in sensitivity, not all are expected to be seen in every user. Approximate rankings for relative risk of addiction are on a five-point scale, where 1 is most severe.

b/Bronchitis, emphysema, precancerous changes, lung cancer, pulmonary hypertension, and cardiovascular damage by carbon monoxide are consequences of smoking tobacco or marijuana, not due to the respective psychoactive drugs. Inhalation of smoke by non-smokers is also a significant hazard. With equivalent smoking, these chronic toxic effects occur sooner with marijuana than with tobacco.

c/These effects result only from alcohol, not benzodiazepines or barbiturates.

From the mid-1980s to the early 1990s, cases of SARM increased by a factor of 6 in Germany and Spain, and a factor of approximately

5 in Austria, Belgium, Italy and Switzerland. In France and the United Kingdom, SARM cases only doubled, but, in contrast to most other European countries, they continued to grow in the 1990s. SARM cases in the Netherlands fluctuated but remained around the same level.

Reports from the Russian Federation suggest that SARM increased by a factor of 4 in the early 1990s to more than 2,000 in 1992, making the Russian Federation the country with the world's second largest SARM rate after the United States. In Poland, SARM increased by about 50 per cent between 1989 and 1992. In countries and areas outside Europe, strong increases were reported from, for instance, Hong Kong, Japan and Saudi Arabia. The only country reporting a falling SARM rate between 1989 and 1991 was the United States. Since then, however, SARM cases have again shown a clearly rising trend, reaching a level of about 8,500 (DAWN) or 13,000 (United States National Centre for Health Statistics) in 1993/94. Overall SARM rates in Western Europe have stabilized or fallen in the 1990s, after having grown dramatically in the 1980s. SARM cases in Western Europe, both in absolute terms and in relation to the size of the population, remain below those in the United States.

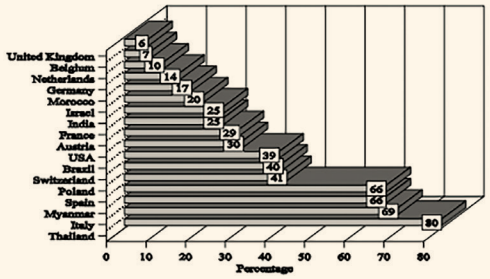
In 1994/95, there were about 3.3 SARM cases per 100,000 inhabitants in the United States, compared to 1.8 in Western Europe. While health problems primarily affect the drug abuser concerned and only indirectly affect society in general, by giving rise to higher health-care costs, the links between drug addiction, needle-sharing, prostitution, AIDS and other diseases are even more clearly demonstrable. This creates additional health dangers for society as a whole. Some 22 per cent of the world's HIV/AIDS population are drug injectors.

This is a significantly higher proportion than the total number of drug injectors in the world population. Reports from individual

countries suggest that the share of IDUs in the HIV/AIDS population is as high as 80 per cent in Thailand, 69 per cent in Italy, 66 per cent in Myanmar, 66 per cent in Spain, 41 per cent in Poland, 40 per cent in Switzerland, 39 per cent in Brazil, 30 per cent in the United States and 25 per cent in France and India. Lower shares are reported for countries in Central America, Germany (14 per cent), the Netherlands (10 per cent), China (8 per cent), Sweden (8 per cent) and the United Kingdom (6 per cent).

The resulting debate revolves around a variety of medical, ethical and legal questions, one of which concerns balancing policies for reduction and eradication of drug abuse with policies that aim at limiting the spread of diseases (such as HIV/AIDS) that may be associated with drug abusers.

Proportion of injecting drug abusers in HIV/AIDS population, selected countries in the early 1990s



Sources: UNDCP and ICPO/Interpol.

C. Education

Though education and drug abuse often appear to be in a circular relationship, it is generally believed that education is an important point of intervention for the prevention of drug abuse. School children who use drugs often suffer from impairment of short-

term memory and other intellectual faculties, impaired tracking ability in sensory and perceptual functions, preoccupation with acquiring drugs, adverse emotional and social development and thus generally impaired classroom performance. Reduced cognitive efficiency leads to poor academic performance and a resulting decrease in self-esteem.

This contributes to instability in an individual's sense of identity which, in turn, is likely to contribute to further drug consumption, thus creating a vicious circle. At the same time, education is one of the principal means of preventing drug abuse. It should be appreciated, however, that preventive education is a process which will produce results only in the long term, in particular with the close cooperation of parents. Unfortunately, scientifically validated information on the overall effectiveness, and cost-effectiveness of various approaches, is not usually available.

D. Environment

Environmental damage related to illicit drugs is caused in producing countries by clearing of forests, growing of crops as monocultures, processing of harvested plants into drugs and the use of environmentally dangerous chemicals without the necessary precautions being taken. Although environmental damage due to illicit drug production has, to some extent, been documented, there appears to have been little effort, to date, to compare illicit drug-related damage to that resulting from licit agriculture and industry.

The type of environmental damage found in any one country will depend on the specific role that country plays in the operations of the illicit drug industry. In the Andean countries, for example, coca farmers cut down forests on steep hillsides which are prone to erosion, instead of expanding cultivation of the rich alluvial

soil on the valley floors. It is feared that coca cultivation may have resulted in the deforestation of 700,000 hectares in the Amazon region in Peru. An estimated 2 to 6 hectares of forest land are cleared by farmers in Chapare (Bolivia) for each hectare of coca production. This means that between 260,000 and 780,000 hectares have been cleared as a result of the boom in coca production, compared to the 250,000 hectares of forest estimated to have been lost annually in recent years to timber extraction, colonization and cattle ranching.

In South-East Asia, most opium poppy cultivation takes place in the rain forests. The traditional slash-and-burn system used by the hill tribes has cleared enormous amounts of rain forest in recent years and much of the cleared land has come under poppy cultivation. Such forests could have been used much more productively. Slash-and-burn agriculture, in any case, damages the environment by denuding the land, destroying top-soil and silting up rivers.

Deforestration

Similarly, in the tropical and high mountain forest regions of Latin America, opium poppy cultivation is beginning to emerge on fragile, isolated land, and is thus difficult to detect. Given the illegality of cultivation, growers of opium poppy, coca and cannabis do not usually put much effort into preserving the soil from erosion or caring for the land. Unlike indigenous farmers, cultivators of drug crops have fewer ties to the land and have less respect for it. Consequently, their practices are far more wasteful, depleting the soil and not giving it a chance to recover between crops. In an effort to raise productivity, illicit cultivators frequently use herbicides and insecticides in larger amounts than would normally be considered acceptable.

The intense use of pesticides by coca cultivators in the Chapare area has already seriously contaminated the groundwater.

Another type of damage to the environment from coca and opium is caused by the improper disposal of toxic wastes created during the processing of plant material into a form of consumable drug. In Boliva, some 30,000 tonnes of toxic chemicals used in the processing of illicit drugs are flushed down the waterways each year without any proper waste water treatment being carried out. These chemicals, which range from moderately toxic to extremely destructive in environmental terms, include lime, sodium carbonate, sulphuric acid, kerosene, acetone and hydrochloric acid. Moreover, some 200,000 tonnes of discarded coca leaves are left to leach into the soil every year. In Peru, the extensive use of chemicals to process drugs and the practice of disposing of them by the quickest means possible have been responsible for killing whole species of fish and aquatic plants in the Huallaga River.

According to United States Government studies, cocaine processors in the Andean region each year dump into the water some 10 million litres of sulphuric acid, 16 million litres of ethyl

ether, 8 million litres of acetone and from 40 to 770 million litres of kerosene (depending on how much is recycled). The chemical wastes alter water pH values, reduce oxygen, lead to acute poisoning of fish and plants and even to possible genetic mutations in some species. Finally, the environmental impact of herbicides used to eradicate illicit drug cultivation is also a cause of concern. What seems to be needed is a balanced assessment of the relative environmental impact of existing cultivation practices, often using damaging agrochemicals, as against a one-time chemical or biological intervention to eradicate the illicit crop in question.

Toxic Chemicals disposed in water body

E. Crime, corruption and dangers for civil society

Drugs and crime are related in several ways. Illicit production, manufacture, distribution, possession and consumption (with some exceptions) of illicit drugs constitute criminal offences in most countries, in particular those countries which are signatories to the 1961, 1971 and 1988 United Nations drug

control conventions. In the United States, for example, almost 60 per cent of all federal prisoners in 1994 were drug offenders; up from 45 per cent in 1988. Drugs increase the likelihood of many kinds of criminal activity. Drug-related crime occurs primarily in the form of trafficking-related activity, including violent conflicts among trafficking groups competing for increased market share. It also results from the need of drug consumers to finance their addiction through theft and prostitution. Long-term trends, based on data collected between 1975 and 1989 and presented to the Commission on Crime Prevention and Criminal Justice, show that drug-related crime and robbery were the fastest-growing component in crime as a whole, after kidnapping.

Even though research in the United States seems to indicate that delinquency (in particular, involvement in crime against property) precedes substance abuse, there is no doubt that this type of criminality further increases once addiction occurs. A review of the relevant literature indicates a strong probability that drug addicts tend to be deeply involved in criminal activities, with daily users of drugs showing a significantly higher rate of criminality than non-drug users. This has also been confirmed indirectly by the National Crime Victimization Survey of the United States, which revealed that 30 per cent of the victims of violent crime in 1992 perceived their attacker to have been under the influence of drugs or alcohol. A study of heroin abusers attending the Liverpool Drug Dependency Unit reported that between 1985 and 1987, some 90 per cent financed part of their habit (on average £40 a day), from shoplifting or burglary. Another study found that almost 50 per cent of the total cost of theft in 1993 in England and Wales was drug related.

A study based on the results of the United States Drug Use Forecasting Programme, which tested nearly 3,000 persons charged of serious non-drug-related offences, found that about three-quarters of drug abusers in New York and Philadelphia

and about two-thirds of those in the District of Columbia, tested positive for cocaine. Experts found that during periods of treatment, when narcotics use was curtailed, property crime levels were significantly reduced and that they also tended to decrease after termination of addiction. Another United States study, based on data collected in California in the early 1990s, showed that losses to victims and losses from theft caused by drug abusers fell by more than one half, from an average $9,790 per drug user in the year prior to treatment to $4,320 in the year following treatment.

Drug-related crime and violence is high not only in consumer countries, but also in producer countries, the most striking example of this being Colombia. The Colombian Government clearly sees a link between the narcotics trade and the deaths of many of its citizens over the past two decades. With drug cultivation and trafficking booming, the number of killings increased from 17 per 100,000 people in the 1973-1975 period (i.e., before large-scale drug cultivation started) to 63 per 100,000 in 1988, which, at the time, was the third highest murder rate in the world. Studies on the regional distribution of violence showed that of the 10 most violence-prone regions in the country, 8 were major cocaine- and marijuana-producing and trafficking areas. The correlation between poverty or inequality and violence was much weaker than that between violence and drug-producing and trafficking areas. While the link between drugs and crime is well-established, expert studies and opinions differ as to how far law enforcement prevents crime by limiting the number of drug abusers. Some researchers even question whether law enforcement may not, in fact, contribute to an increase in certain kinds of crime, such as violent conflicts among dealers for market share and crimes committed by abusers to finance their habit.

The impact of illicit drug abuse and trafficking on law enforcement is both extensive and intensive. Illicit drugs have a considerable

impact at each step along the chain of production, distribution and consumption, diverting time, energy and resources away from other responsibilities. The above-mentioned issue on the costs of drug abuse in California showed, for instance, that a drug abuser, prior to treatment, costs the taxpayer in California an average of $7,940 for the services of the criminal justice system, which is more than one third of the total costs relating to drug abuse. In addition to these costs, wherever there is a well-organized, illicit drug industry, there is also the danger of police corruption. There can be few components of law enforcement programmes which actually cost nothing. The asset forfeiture provision of the federal law for crop suppression (relating mainly to cannabis in the State of Kentucky), proved to be such a case, costing the United States Government $13.7 million, but yielding a return of $53 million in 1991, or almost $4 in assets seized for every $1 invested by the Drug Enforcement Administration.

The usual pattern is, however, quite different. United States drug-related law enforcement expenditure (police, courts, prosecution, corrections) by the Federal Government was $13.3 billion in 1995, with an additional $8.5 billion (1991) spent by state governments, i.e. a total figure equivalent to approximately 0.3 per cent of GDP. That figure was higher than the individual GDP of 150 of the 207 world economies in 1995. Even higher, in proportional terms, have been the funds invested by the Colombian Government to fight drug-trafficking. Colombia spent $0.9 billion or 1.1 per cent of its GDP in 1995 and $1.3 billion, equivalent to 1.6 per cent of GDP in 1996 for this purpose. In 1996 in the Islamic Republic of Iran, another country which is strongly affected by trafficking, expenditure on fighting drug trafficking was $0.3 billion or 0.3 per cent of GDP. Enforcement expenditures in Europe are lower in relative terms. The United Kingdom, for instance, spent US$ 0.8 billion in 1993/1994, equivalent to 0.1 per cent of GDP. A much-discussed question concerns the links between illicit drug-

trafficking organizations and terrorism or insurgent groups in terms of financing operations, gaining political support or undermining an existing government.

There is evidence that a number of insurgent and terrorist organizations deal in illicit drugs for mainly pragmatic reasons. Several, particularly in the coca growing regions of South America, use their earnings from the cocaine trade to bolster their political power and to acquire operating funds, even though they may be ideologically opposed to the drug trade itself. The Colombian Government, for instance, estimates that between one third and one half of the operations of the Fuerzas Armadas Revolucionarias de Colombia (FARC) (Colombian Revolutionary Armed Forces), the country's largest guerilla group, are financed through narcotics trafficking.

Suspects who stormed a television studio in Ecuador's Guayaquil rounded up by the Police.

Located in South America's Pacific coast between Peru and Colombia, the world's largest cocaine producers, Ecuador has become a key transit point for the drug in recent years and resulted in increase of gang violence. Gangs in Ecuador had

assassinated presidential candidate Fernando Villavicencio and set off car bombs in front of Government buildings. In January 2024, an unprecedented assault on a TV Station in Guayaquil, a port city in Ecuador, when masked gunmen burst in, unleashing at least 15 minutes of threat and fear – all broadcast live. This came hours after a series of other attacks and Police officer abductions. Much of the violence suffered by the country comes as drug gangs fight each other and the Government for control of ports and smuggling routes.

Various groups with similar agendas and considerable income from trafficking are reported elsewhere: Central America, Afghanistan, Myanmar, Sri Lanka and Thailand. Illicit drug funds laundered or otherwise, may infiltrate the formal economy and subsequently the political system, endangering the foundation and the proper functioning of civil society and leading to social disintegration and anarchy. In some producer/ trafficking countries, drug money is reported to have infiltrated the "last crevices of society, politics, the economy, and even cultural and sports activities to gain public support and respect, as well as to have an ideal vehicle for money-laundering".

The magnitude of funds under criminal control poses special threats to governments, particularly in developing countries, where the domestic security markets and capital markets are far too small to absorb such funds without quickly becoming dependent on them. It is difficult to have a functioning democratic system when drug cartels have the means to buy protection, political support or votes at every level of government and society. In systems where a member of the legislature or judiciary, earning only a modest income, can easily gain the equivalent of some 20 months' salary from a trafficker by making one "favourable" decision, the dangers of corruption are obvious.

Given the already considerable influence of major drug traffickers and their ability to win popular and political

support, governments in a number of countries are forced either to submit to pressure from the traffickers or risk major political unrest. In Colombia, for instance, the decision of the Government in 1996 to go ahead with large-scale coca bush and opium poppy eradication resulted in massive demonstrations, apparently initiated by a number of drug trafficking groups which succeeded in mobilizing more than 100,000 people. Many of the demonstrations escalated into open anti-government riots. Similar events have also been reported from Bolivia and other countries. In other words, the drug production, trade, financing and laundering nexus has created a difficult situation in which governments may opt to remain passive in the fight against drug trafficking in order to preserve a minimum level of social peace.

Conclusions

Quite apart from all the limitations inherent in trying to assess the extent of the illicit drug problem, an assessment of the economic and social consequences of the problem is no less difficult. Information about the consequences of drug abuse is inchoate and very far from conforming to even the most basic cross-national comparative standards. Yet, fragmented as the information may be, it is imperative that a start be made on converting it into policy-relevant knowledge. While there is a need for a clear assessment of the cost-effectiveness of public policy measures and the optimal allocation of public resources in limiting illicit drug production, trafficking and abuse, it is evident that the process of synthesizing information on the economic and social consequences of drug abuse and illicit trafficking should continue, perhaps even accelerate.

While research into many of the specific dimensions of the illicit drug problem has intensified in the last few years, and this trend is likely to continue, cross-national, cost-benefit analyses on the economic, social and health aspects of illicit drug production, trafficking and consumption are vitally needed. There is also

commensurate, equally imperative need to assess the relative costs and benefits, also in cross-national terms, of different drug control policies. When the initial draft of this issue was presented to the Commission on Narcotic Drugs, its contents were heeded, not least because of their novelty. Since then, there has been an encouraging increase in the number of similar studies, now available on this issue and in the studies published under the rubric of the UNDCP Technical Series.

It is hoped that this trend will continue as, arguably, the most significant challenge posed by the illicit drug problem is its ability to adapt to the economic, social and technological changes taking place in society. It is already clear that three particular phenomena will need to be addressed in greater detail: psychoactive drugs that become illicit as a result of being diverted from licit purposes; chemicals used in the illicit manufacture of narcotic drugs and psychotropic substances; and illicitly produced synthetic drugs. While work on all three areas continues, measures of their global importance, particularly in terms of economic costs and consequences, are still thin on the ground. Given present trends, these phenomena can only grow in magnitude. There is, therefore, all the more reason to continue to expand the process of learning and discovery that has now been launched. While economic integration has been a growing trend for decades, the geographic scope and the speed of current economic transactions are new phenomena. In this regard, technology has been a crucial force for change.

Events are proving that technology can be used in various ways, however, but not always for good. The emergence of a global crime network with a high degree of operational sophistication, the growth of the international narcotics trading routes and the increasing complexity of money laundering crimes reflect three inter-related trends affected by technology and the globalization of commerce. The illicit drug trade is now well entrenched in countries that, only a few years ago, had negligible drug-

related problems. As a result, customs authorities are finding it increasingly difficult to cope simply on the basis of unilateral and unisectoral action. It is thus well worth concluding by emphasizing the need, not only for further research into the issues but, just as importantly, the requirement for such research to have an influence on the global drug policy debate.

The need to take stock of on-going trends is restrained only by the need to plan for the future. While it is inevitable that the problems relating to illicit drugs that are currently emerging will have an impact on the research agenda in individual countries, it is crucial that research results should be channelled into the process of drug policy development, not only within these countries but at the international level, too.

2. Economic consequences of Drug abuse

Drug abuse inflicts immeasurable harm on public health and safety around the world each year, and threatens the peaceful development and smooth functioning of many societies. An understanding of the economic costs of drug abuse is necessary to develop policies that reduce such costs. Attempts to calculate the global monetary burden of drug abuse, however, are mired in data limitations in the many areas that must be taken into account to arrive at even a rough estimate of the total global cost of drug abuse. Analysis of the economic consequences of drug abuse must account for expenditure associated with policy choices and take into consideration any gains and externalities. Although accounting for the full, real costs of drug abuse worldwide is challenging, analysing its consequences and understanding the domains it affects helps us to gain a clearer picture of the ways in which drug abuse affects the world.

The present discussion analyses the consequences of drug abuse in five primary domains—health, public safety, crime,

productivity and governance—using the available evidence, the effects of drug abuse on those domains depend upon a host of interconnections within and outside these fields, including other factors such as social structures, cultural values and government policies. Here the focus is on the drugs that are under international control and does not delve into the consequences of abuse of specific drugs (especially given the prevalence of polydrug abuse). It is also important to keep in mind that costs and consequences vary widely across geographic regions.

A brief discussion of the costs of alternative policies and the disproportionate economic impact of drug abuse on specific populations, including women, children, families and the poor, are presented. The chapter concludes with a number of conclusions, recommendations and best practices, rooted in evidence, to lower the global economic costs of drug abuse and improve the well-being of society.

A. Impact on health

A person's health is greatly affected by drug abuse. Economically, this manifests itself in prevention and treatment costs, health-care and hospital costs, increased morbidity and mortality.

B. Costs of drug prevention and treatment

The phenomenon of drug abuse requires societies to dedicate resources to evidence-based prevention, education and interventions, including treatment and rehabilitation. Although such activities can be resource-intensive, studies have shown that for every $1 spent, good prevention programmes can save Governments up to $10 in subsequent costs.

Heroin, cannabis and cocaine are the drugs most frequently reported by people entering treatment worldwide. It is estimated

that only one in six problem drug users worldwide, some 4.5 million people, receives the required treatment, at a global cost of about $35 billion annually.

There is a wide variation from region to region. For example, in Africa only 1 in 18 problem drug users receive treatment. In Latin America, the Caribbean and Eastern and South-Eastern Europe, approximately 1 in 11 problem drug users receives treatment, while in North America an estimated one in three problem drug users receives treatment interventions. If all dependent drug users had received treatment in 2010, the cost of such treatment would have been an estimated $200 billion-$250 billion, or 0.3-0.4 per cent of the global gross domestic product (GDP). Research findings clearly show that investment in treatment is cost-effective compared with the cost of untreated and continuing abuse. Research conducted in the United States of America reveals that every $1 invested in treatment yields a return of between $4 and $12 in reduced crime and health-care costs.

C. Health care and hospitals

Visits to hospitals in connection with drug abuse are costly to society. Such visits occur as a result of overdoses, adverse reactions, psychotic episodes and symptoms of infectious diseases that can be transmitted through, inter alia, injecting drug use, such as hepatitis B and C, HIV/AIDS, tuberculosis, and other illnesses related to drug use. Additionally, hospitals often need to treat victims of drug-related crimes and accidents.

D. Morbidity and mortality

Globally, it is estimated that drug-related deaths account for between 0.5 and 1.3 per cent of all-cause mortality for people aged 15-64 years. It is estimated that there are 211,000 drug-related deaths annually, with younger people facing a particularly high risk. In Europe, the average age of death from drug use

is in the mid-30s. It is important to note that little information regarding drug-related mortality is available for Asia and Africa. In addition to drug-related mortality, estimates indicate that of the 14 million injecting drug users worldwide, 1.6 million are living with HIV, 7.2 million are living with hepatitis C, and 1.2 million are living with hepatitis B. A global scientific study estimated that the burden of disease attributable to drug use was substantial, rising in 2010 relative to 1990. Out of 43 risk factors, drug use was nineteenth in the ranking of the top global killers (alcohol was third and tobacco was second). For people aged 15-49 years, drug use was the sixth most common reason for death.

E. Impact on public safety

Beyond health costs, people under the influence of drugs pose major safety risks and costs to people around them and the environment. For example, drug-affected driving accidents have emerged as a major global threat in recent years. Additionally, a greater awareness of the impacts on the environment of illicit drug cultivation, production and manufacture has emerged.

F. Drug-affected driving

The abuse of drugs affects perception, attention, cognition, coordination and reaction time, among other neurological functions, which affect safe driving. Cannabis is the most prevalent illicit drug detected in drivers in Canada and the United States and Europe and Oceania. Research has found that habitual cannabis use is linked to a 9.5-fold greater risk of driving accidents, cocaine and benzodiazepines increase the risk 2-10 times, amphetamines or multiple drug use increase the risk 5-30 times, and alcohol in combination with drugs increases the risk of getting seriously injured or killed while driving by a factor of 20-200. That increased risk also has consequences for passengers and others on the road, who may become victims of drug-affected driving.

G. Impact on the environment

The illicit manufacture and disposal of drugs and pharmaceuticals cause significant environmental contamination, owing to the precursor chemicals required for manufacture, the manufacturing process itself and the active ingredient or substance. Disposal introduces those substances into the environment in sewage, from where they can enter sediment, surface and ground water and the tissues of vegetation and aquatic organisms. As a result, wildlife and humans can be chronically exposed to very low doses of drugs and the chemicals used in their illicit manufacture. That results in costs to individuals and to Governments, as they are responsible for ensuring public health.

Illicit cultivation of both coca bush and opium poppy has often resulted in the clearance of forests—in the case of illicit cultivation of coca bush, primarily in Bolivia (Plurinational State of), Colombia and Peru. Some devastating effects of illicit cultivation of cannabis plant, coca bush and opium poppy on biodiversity are the loss, degradation and fragmentation of the forests, and the loss of areas where food could be grown.

In addition to the deforestation caused by illicit crop cultivation, Chemicals used for the processing of illicit drugs can be harmful to biodiversity, both in the immediate area and downstream, as a result of chemical run-off. There can also be negative Effects associated with the aerial spraying of crops.

Finally, the emergence of illicit drug cultivation and manufacture in residential areas brings with it concern about reduced quality of life for residents, neighbourhood decay and property damage resulting from child endangerment, criminal activity and explosions.

H. Relationship with crime

A generation of research has defined three major links between drugs and crime. The first drugs/crime nexus relates to the

violence that can be associated with the use of drugs themselves: psychopharmacological crime.

Crime committed under the influence of drugs is a major problem worldwide. For example, in a study in Dominica, Saint Kitts and Nevis, Saint Lucia and Saint Vincent and the Grenadines, as many as 55 per cent of convicted offenders reported that they were under the influence of drugs at the time of the offence, with 19 per cent of the same set of offenders saying that they would still have committed the crime even if they had not been under the influence of drugs.

The second drugs/crime link is economic- compulsive crime. This is the result of drug users engaging in crime to support their drug consumption and addiction. In the United States, for example, 17 per cent of state prisoners and 18 per cent of federal inmates said they had committed the offence for which they were currently serving a sentence to obtain money for drugs. In the United Kingdom of Great Britain and Northern Ireland, it is estimated that economic-compulsive crime costs approximately $20 billion a year, the vast majority of those costs resulting from burglary, fraud and robbery.

The third link is systemic crime: the violence that occurs, for example, as a result of disputes over "drug turf" or fighting among users and sellers over deals gone awry. This has been seen, starkly, in Latin America over the past 20 years, especially in countries such as Guatemala and Mexico, but it is also seen in the streets of every continent throughout the world.

Studies show that overall, drug-related crime is costly but varies from region to region. A study in Australia indicated costs of $3 billion a year, and in the United States it is estimated that drug-related crime costs $61 billion annually.

All those costs are related to burdens placed on law enforcement agencies and the judiciary, in addition to the increased

incarceration rates resulting from behaviour related to drug use, which in the past few decades have grown substantially in many countries.

I. Impact on productivity

A further cost of drug abuse that is often cited is the loss in productivity that can occur when drug users are under the influence of drugs or are experiencing the consequences of their drug use (e.g., while in treatment, incarceration or hospital). Studies have put the costs of lost productivity borne by employers at tens of billions of dollars.

J. Costs from labour non-participation

Productivity losses are calculated as work that would be reasonably expected to have been done if not for drug use (a loss of potential income and output and therefore GDP) as a result of a reduction in the supply or effectiveness of the workforce. Lost productivity in the United States as a result of labour non-participation is significant: $120 billion (or 0.9 per cent of GDP) in 2011, amounting to 62 per cent of all drug-related costs. Similar studies in Australia and Canada identified losses of 0.3 per cent of GDP and 0.4 per cent of GDP, respectively. In those two countries, the cost of lost productivity was estimated to be 8 and 3 times higher, respectively, than health-related costs due to morbidity, ambulatory care, physician visits and other related consequences.

K. Costs from treatment participation, hospitalization, incarceration and premature mortality

While in treatment or when incarcerated, drug users may be unable to participate in work, education or training, adding to the economic loss, in addition to the cost of treatment or incarceration. It should be noted that these productivity costs will be lower if job opportunities are already scarce as a whole.

L. Impact on governance

Drug traffickers in countries all over the world corrupt officials at all levels of law enforcement and government in order to continue with their criminal activities unimpeded. As a result, citizens in affected areas often live with compromised law enforcement institutions. Today, this is seen in different continents, where illicit cultivation of cannabis plant, coca bush and opium poppy continue unbridled, resulting in less stable government institutions and the corruption of government officials.

It is important to note that these connections may not be straightforward, as weak governance (resulting also from issues not related to drugs) can also lead to more illicit drug crop cultivation, illicit drug production, manufacturing and trafficking and more drug abuse. Traffickers establish new transit routes by exploiting weak governing institutions, financing corruption and terrorism with the gains made by engaging in illicit activity.

M. Impact on specific populations Children

Prenatal exposure to drugs can result in an array of emotional, psychological and physical disorders. Children exposed to illicit drugs after birth may suffer significant problems that require additional care, resulting in both personal expenses and costs to society. Children exposed to drugs are at a significantly higher risk of both physical and sexual abuse as well as neglect and often have higher rates of anxiety, depression, delinquency and educational and attention problems.

Parents who abuse drugs are more likely to live in homes in which relatives, friends, and strangers also use drugs, exposing children to possible emotional and physical harm. Additionally, children that have to be removed from such environments are more likely to engage in crime, drug use and delinquency.

Drug abuse is of particular concern among street children throughout the world. Studies indicate that street children who

use drugs were more likely to have been abused by their parents, have a history of arrests and engage in sex work, exposing them to sexually transmitted diseases.

Drug abuse also affects children in conflict areas. In some regions, drugs are used as an instrument to engage and retain children and young people as child soldiers in civil wars, armed conflicts and regional conflicts and in terrorist activities. These children and young people can become subject to physical and sexual abuse, psychological problems, addiction and other harmful consequences.

N. Impact on Women

Gender differences have been identified as heavy determinants in the onset of addictive behaviours, including drug abuse. Women are acutely affected by particular consequences of drug abuse, such as sexually transmitted diseases and the consequences of domestic violence, in addition to being more likely to be affected by drug-facilitated crime.

Girls attending a Drug Awarness speech at Madurai

O. Low-income populations

Drug abuse and poverty are often linked in multiple ways. Drug abuse may occur to relieve the stress associated with poverty,

chronic social strain and other difficult events. In poorer neighbourhoods, there is often less access to support systems, health care and community organizations.

Additionally, the relationship between drugs and poverty can also work in the inverse direction: drug abuse can deplete users' income, leading to a lack of care for family and loved ones and other responsibilities.

3. Alternative policies

Some have argued that alternatives to the present control system would result in lower costs. They argue that enforcement costs resulting from the current international drug control regime, not drugs themselves, are the source of most costs.

It is, however, unclear that costs related to enforcement would necessarily decrease under policies that are not based on the current international drug control treaties. In addition, it has been shown that government revenue from the legal sale of alcohol and tobacco is less than the economic and health costs of their abuse.

Additionally, there might be increased law enforcement costs due to higher crime rates occurring under more permissive laws and control regimes. In many countries, alcohol, not drugs under international control, is responsible for far more arrests (for example, in the United States, in 2012 there were over 2 million alcohol related arrests—more than the 1.6 million arrests related to all illegal drugs combined). One reason for those higher alcohol-related costs is that in many countries alcohol abuse is far more prevalent than the abuse of substances under international control.

It is sometimes argued that criminal organizations might be deprived of revenues if drugs were legalized, as alcohol is.

However, those criminal organizations obtain their resources not just from illicit drug sales, and such organizations may enter the licit market while remaining in the illicit market.

Legalizing drugs would not ensure that underground markets dealing in them would cease. In fact, today there is a thriving black market for cigarettes in many countries, such as Canada and the United States and in Europe and other regions of the world. For example, it has been shown that from 9 to 20 per cent of the United Kingdom's domestic cigarette market now consists of smuggled cigarettes. In Canada, smuggled cigarettes represent about 33 per cent of all domestic cigarette consumption, although that proportion varies from province to province. In the United States, three quarters of the cigarettes observed in a Chicago neighbourhood as part of a research study had no tax stamp, indicating that they came from black or grey market sources.

Emerging data from the State of Colorado of the United States suggest that since the introduction of a widely commercialized "medical" cannabis programme (poorly implemented and not in conformity with the 1961 Convention), car accidents involving drivers testing positive for cannabis, adolescent cannabis-related treatment admissions and drug tests revealing cannabis use have all increased.

One can also imagine states having to bear regulation costs of such alternative drug regimes. Costs of regulation include, among other things, monitoring and controlling cultivation, production, manufacturing and distribution, as well as monitoring use, and its impact. This has been seen in state-run medical cannabis programmes in the United States, where states have been unable to manage those new bureaucracies, according to independent audits.

If currently controlled substances were regulated as alcohol is in many countries, more people would use them and become addicted, resulting in more adverse consequences.

Conclusions, recommendations and best practices to reduce the economic consequences of drug abuse:

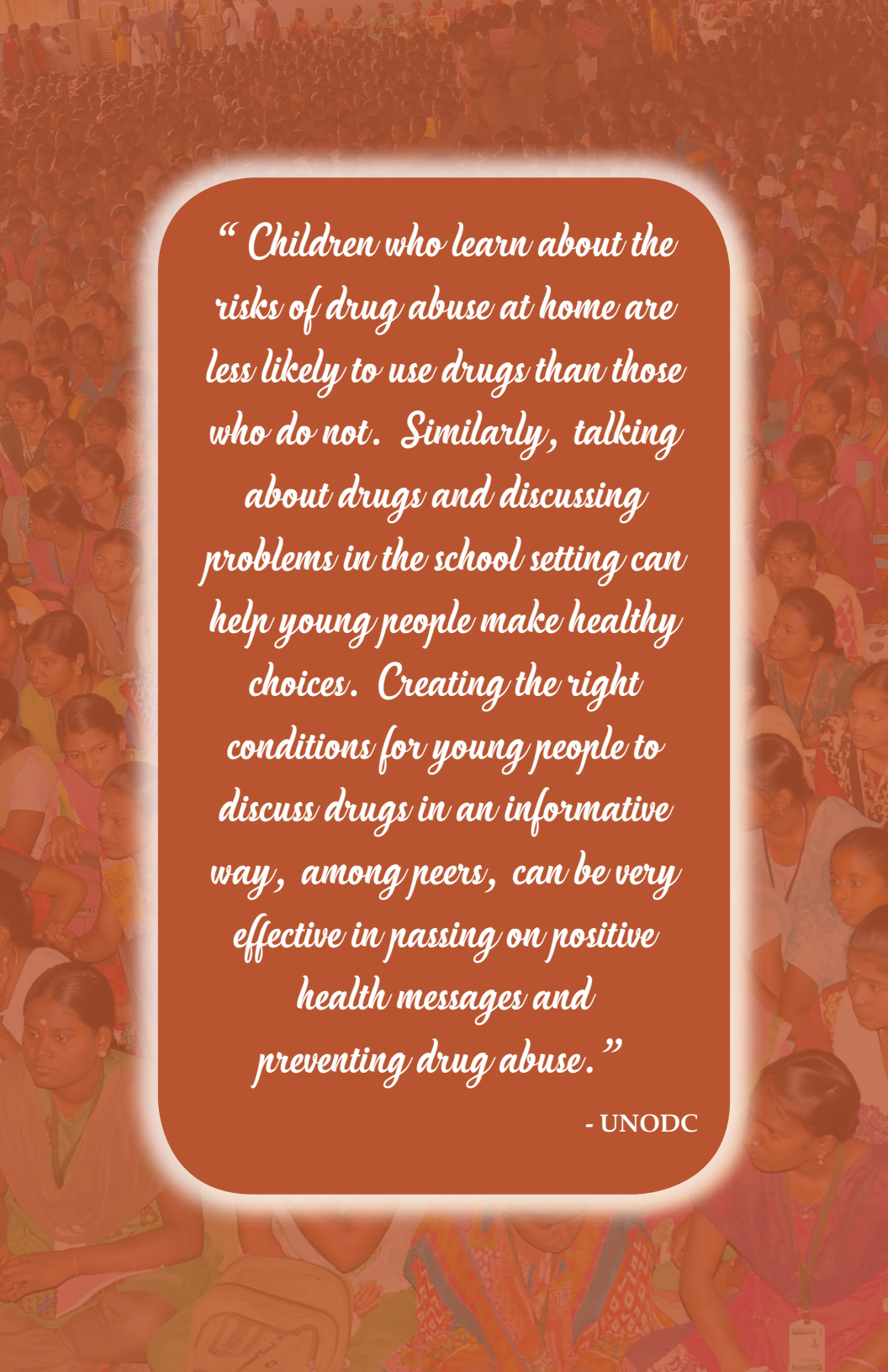
Since drug abuse places such a costly burden upon society in so many domains, it is important to discuss ways in which these costs can be reduced. What can society do to reduce the overall cost of drug abuse?

A brief overview of some proven measures follows:

- Drug prevention is cost-effective. Generalized universal prevention programmes aim at building strong communities and families, mostly seeking to provide young people with the skills to make healthy choices and decisions. Specific and targeted prevention must also be an aim of Governments. Engaging the broader community in prevention has shown to be successful in preventing drug abuse and reducing its adverse consequences. Community-based approaches have been tried in the Americas and other regions, and early studies indicate they are effective;
- For individuals with addiction, drug treatment, with behavioural and/or medical interventions, has proven to be effective. While there is a need to protect privacy, treatment should be given in the context of rehabilitation and social reintegration and complemented by measures aiming at the reduction of the adverse consequences of drug abuse;
- Recovery from drug addiction requires support from family and the community. It should also include education and job training, housing, childcare, transportation to and from treatment and work, case management and spiritual support, as well as relapse prevention, family education, peer-to-peer services and coaching, self-help and support group services;
- A more efficient justice system can deter drug abuse and offer alternatives to incarceration. Drug treatment courts rely on swift and modest sanctions coupled with treatment and drug testing to promote abstinence from drugs, reduce crime

and increase social reintegration. This may require a major reorientation of national drug control and justice policies and may also require significant investments. Such measures have had success among repeat criminal offenders with long drug abuse histories in some regions of the world;

- A wide variety of social programmes not directly related to drug abuse have the potential to reduce the economic consequences of drug abuse. For example, vocational training programmes can be targeted so as to reach young people particularly at risk of becoming drug sellers, and interventions can target those vulnerable to homelessness, social deprivation, unemployment and exclusion from educational opportunities. Public housing projects should be designed so as to avoid physical niches that protect retail drug trafficking. While such measures and initiatives require significant investment, they are likely to reap benefits in the long term, not just by reducing the economic consequences of drug abuse but by also yielding benefits in many other domains;
- Policies and initiatives against drug trafficking must be integrated into development programmes in all countries, keeping in mind the key goal of strengthening institutions and shared responsibility at all levels of government;
- The Single Convention on Narcotic Drugs of 1961, the Convention on Psychotropic Substances of 1971, and the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988, as well as the Political Declaration adopted by the General Assembly at its twentieth special session, held in 1998, and the Political Declaration and Plan of Action on International Cooperation towards an Integrated and Balanced Strategy to Counter the World Drug Problem of 2009 provide a well-established framework to implement the policies mentioned above and, in turn, reduce the economic consequences of drug abuse worldwide.



" Children who learn about the risks of drug abuse at home are less likely to use drugs than those who do not. Similarly, talking about drugs and discussing problems in the school setting can help young people make healthy choices. Creating the right conditions for young people to discuss drugs in an informative way, among peers, can be very effective in passing on positive health messages and preventing drug abuse."

- UNODC

Chapter - VI

Need of the Hour

1. Drug demand reduction strategy

The problem of drug abuse and illicit drug trafficking is one which has devastating consequences on all sectors of all countries worldwide. It causes adverse effects on health; an upsurge in crime, violence and corruption; the draining of human, natural and financial resources that might otherwise be used for social and economic development; the destruction of individuals, families and communities; and the undermining of political, cultural, social and economic structures.

A rapidly changing social and economic climate, coupled with increased availability and promotion of drugs and the demand for them, have contributed to the increasing magnitude of the global drug abuse problem. The complexity of the problem has been compounded by changing patterns of drug abuse, supply and distribution. There has been an increase in social and economic factors which make people, especially youth, more vulnerable and likely to engage in drug use and drug-related risk-taking behaviour. Therefore, in order to efficiently address this problem, drug demand reduction policies and programmes should be specifically designed to encompass all sectors of society at large.

The most effective way of tackling the drug problem involves a comprehensive, balanced and coordinated approach, that addresses both supply control and demand reduction, which reinforce each other, together with the appropriate application of the principle of shared responsibility.

Extensive efforts are being carried out by Governments, international organizations, and non-governmental organizations, to suppress the illicit production, trafficking and distribution of drugs. Drug demand reduction programmes should be integrated to: promote cooperation amongst key actors; include a wide variety of appropriate interventions; promote health and social well-being amongst individuals, families and communities; and should also reduce the adverse consequences of drug abuse for the individual and for society at large.

The major root of the drug problem, and the one that drives drug supply, is drug demand. Without a worldwide demand for drugs, the drug traffickers and producers would disappear. Fifty years ago, if one dropped a ton of cocaine on the streets of most major cities of the world, the street cleaners would be called out, and the drugs would be swept in the gutter. Today, drug users and sellers would cause chaos. This demonstrates that the culture of values and goals drives demand more than any other single factor.

2. Importance of Drug abuse prevention education

The main focus of substance abuse education is teaching individuals about drug and alcohol abuse and how to avoid; stop, or get help for substance use disorders—and this can begin at a young age. Education can start with parents educating their children, and in primary school programming designed to increase knowledge about substance abuse and the associated risks. For teenagers, substance abuse education is generally

incorporated into school curriculum as well. Adults who want to learn more about substance abuse (that they can then share with their kids) can attend classes, group meetings, and research information online in order to learn more about the topic

Substance abuse education is important for children, teenagers, and adults alike; there are many misconceptions about commonly used legal and illegal substances, such as alcohol and marijuana. Ensuring that children are educated about drugs can help prevent them from using them, especially ones that are made to sound harmless, but are in reality very addictive or dangerous to the body. Helping adults understand the repercussions of drug use can prevent a problem from forming and can provide information they can share with their children to prevent future issues.

Interacting with school children on Drug Awarness, in Tripura

Preventing Drug Use Is the Solution:

Drug use is the driving force behind the world's drug problems, contributing to nearly every major health, social, economic and ethical obstacle to a safe and healthy global community.

The Guinness Oration for the Largest Drug Awareness Lesson.
New Record created in Chennai in 2018.

There are two levels to the drug problem. There is the need to control drug production, precursor supply, manufacturing, transportation, illicit finances and marketing, commonly referred to as supply reduction.

The drug market is global in scale, and the role of each nation varies by type of drug. One nation may be a consumer and trans-shipment point for drugs like heroin and be a manufacturer and supplier of drugs like ecstasy. Every nation is involved, and each one impacts the world community.

Supply reduction and disruption are necessary components for reducing drug demand as drug availability and price impact drug use. However, without a demand for drugs, the supply would soon dry up. The long-range solution to the world's drug problem is to reduce drug demand through drug prevention.

The uniqueness of each culture and community must be respected when designing drug policy and programs; however, certain core cross-cultural principles emerge. These core universal principles include:

The Three Pillars of Successful Drug Policy

Demand reduction is supported by three interrelated pillars: 1) drug prevention and education; 2) drug treatment; and 3) drug enforcement/ interdiction.

Every drug policy and plan should consider what impact it will have on reducing and preventing drug demand.

1. Prevention and Education

Foremost among these are drug prevention and education, which aims to stop drug demand before it starts by preventing first drug use from ever occurring. This is the key, long-term solution that will reduce the pool of future drug users and thereby strip demand.

The main goal of positive prevention is to build healthy and safe youth, families and communities – it is "for life" and not just "against drugs." This is done by building upon community and family factors that prevent drug use and reducing and eliminating risk factors correlated with using drugs.

Prevention also works to intervene and redirect early drug use to more positive and healthy activity – preventing first use from becoming regular use.

2. Treatment

Treatment focuses on those with drug use problems and addictions to break the cycle of drug use and lead to more positive lifestyles. Treatment can take numerous forms, from community-based support group sessions to intensive, inpatient professional care. The goal should be eventual drug abstinence to restore individual health, dignity and public safety.

3. Enforcement/Interdiction

Supply reduction disrupts drug markets, increases or maintains high prices and lowers availability or prevents availability growth.

Law enforcement can support both prevention and treatment by serving as a deterrent to first drug use and leverage for treatment participation. Laws are one of the most visible signs of community norms.

To maintain respect, the justice system must ensure that legal consequences rationally correspond to the level of seriousness of the offense. Consequences can range from required drug education attendance, monitored abstinence and treatment, community service and fines to imprisonment for more serious and dangerous drug criminals.

Targeted enforcement can work to reduce drug demand at the local level by eliminating open-air drug use and markets and directing early users into effective intervention and prevention programs. Enforcement also can require those with drug problems to participate in treatment programs and maintain abstinence through drug testing, together with appropriate sanctions.

Effective Prevention Practices

1. Prevention is a long-term, on-going process. Funds and programs require continuity and long-term resources to work. Governments and the private sector must make long-range plans and commitments.
2. The private and non-governmental sector must help. Businesses and philanthropic foundations should invest in drug prevention.
3. Drug prevention must be broad-scoped and communitarian in practice. It includes the entire community, which often centres around the school, faith community and family.
4. School-based drug education should be integrated in the curriculum, start early and be continual throughout all grades. It must raise the perception of risk of drug use. Longitudinal, evidence based prevention programs must be the norm.
5. Drug prevention must be reinforced by experts from all fields: the home and community environment, entertainment, advertising and the schools.
6. Effective prevention must have an unambiguous, clear message of no use of an illicit drug and no abuse of a legal substance – this standard must be enforced; abstinence must be the goal.

7. The message must be coordinated and consistent. It must be reinforced by the total community that drug use is not acceptable.
8. Student random drug and alcohol testing can be a valuable part of a comprehensive drug prevention program. National laws, customs and resources will determine the process of implementation.
9. Community interventions are essential, and drug use must be confronted and solved at all levels.
10. Social interaction, games, drama, music and the arts should be applied to support a drug-free message and lifestyle.
11. The media must be enlisted as a partner in prevention and assertive outreach, and mutual understanding must be applied.
12. The entertainment industry also must be educated and participate in prevention activity; the industry must be held accountable to place the common good of the children before profits.
13. Community coalitions and partnerships - joining youth, parents, police, schools, recreation, entertainment, health professionals and community programs - provide the best forum to assess drug issues and plan and implement appropriate responses.
14. Youth must be an equal partner and enlisted as a big part of the solution. The youth voice needs to be heard, and peer-to-peer groups should be encouraged and supported.
15. Drug prevention must be cost effective and based upon proven evidence-based principles.
16. Effective prevention promotes values more important than money and pleasure and redefines success with truths of what is really important. Prevention must foster and

encourage the drive to care about others and to put people first. Therefore, it must reward what it values and reinforce youth who give of themselves.

17. Communities should work together to increase activities that are desirable alternatives to drugs – recreation, sports, arts, scouting, vocations, drug-free clubs, volunteering, community activism and public service opportunities are examples of prevention tools.
18. Prevention must educate the educators and ensure that those in positions of influence know the facts about drugs and prevention strategies.
19. Prevention must be culturally sensitive and speak in a relevant way to the culture. It also must be inclusive and not leave any child behind.
20. It is critical that drug prevention conveys the risk and dangers of drugs through effective communication.
21. These facts must be clear and evidence-based. The impact of drugs on the brain is especially relevant. More than 25 years of research demonstrates a direct inverse correlation of the degree to which drugs are perceived as dangerous and the use of drugs.
22. Computer technology, virtual reality, new technologies and multimedia must be used as tools and allies to promote drug prevention.
23. It must be kept foremost in mind that prevention is the goal, education is the tool, and knowledge alone is not enough. Prevention must be reinforced at every level of society.
24. Success stories from around the world must continue to be shared, and prevention must build on successes that recommend sound strategies and systems.
25. Communities must hear the tragic stories of families who have lost a loved one to drugs.

3. Role of different stake holders in creating a Drug free society

i. Role of parents in preventing children from falling prey to Drugs:

Parents can play a key role in dissuading kids from abusing drugs. Be it the use of tobacco products, drinking alcohol or experimenting with drugs, parents can prevent their children from falling prey to addiction with little effort on their part. Parents need to spend a lot of time with their children and get to know their friends. Parents should also look for signs of fatigue, glazed eyes and dilated pupils, poor eating and sleeping habits as they are signs of drug use.

Steps to prevent a child from abusing drugs:

Giving them gentle and complete lowdown on drugs:

It is important for parents to talk to their children about drugs and give them a crystal clear picture. However, it is equally important that a lot of research goes into that because half-baked information would only complicate the matter. The sources of the information should be authentic.

Helping children cope with a traumatic experience:

Children on their own are inept in coping with any traumatic experience in their lives and need assistance. Helping them overcome such an event would ensure that they do not seek refuge in some addiction. Addiction in most adults may be triggered by their childhood traumatic experiences.

Boosting self-esteem and confidence of children:

Often, children with low self-esteem and troubled childhood go on to abuse drugs and alcohol in their lives later. Reinforcement of belief and assurance in their innate abilities will help them

grow as strong individuals and they will not feel the need to look for any external support in the form of drugs or alcohol.

Talking about drugs time and again:

Repeating whatever has been said about drugs is important. It is not once in a life time affair that once the information has rolled out, it is done. The little but important titbits about drugs need to be discussed with them in a subtle way, But again, the information has to be factual.

Discussing peer pressure:

One of the prime reasons that children are attracted to the world of addiction is peer pressure. Trying to be popular and at the centre stage is what most teens aspire for. Doing drugs is a (weird) way of achieving that. Hence, giving a clear perspective about peer pressure and how to avoid it should prevent them from straying in to the forbidden waters.

Signs for parents to suspect children of drug abuse:

Parents need to pay attention to what their child does more than what they say. Trust is important between child and parent, but

the love of parents should not dissuade them from ignoring the facts. Visiting the child's room once in a while in their absence and check, the pockets of their soiled clothes before washing, any cigarette rolling paper, Cigarettes with tobacco emptied out, Syringes, Vials, Stained coins, Candle, Scorched tinfoil, Doctor's prescription notes (for forgery), Drugs that require doctor's prescription (when there is a no health condition), Cough Syrups containing Codeine and Medicine strips etc.

Parents also need to keep track of the child's friends. Observe the child's friends. Has the child recently changed the circle of his/her friends? Do they also display the same or similar set of behaviour exhibited by their child? Find some time daily to interact with them and be a good listener to them. Do not give your child unlimited pocket money and explain why drugs are bad for them and their career. Remind their child that they love them and are concerned about them.

On the other hand in the competitive world there are some anxious Parents who want their child at the age of five or six to be the most brilliant in their academics, consulting physicians and pressurising them to prescribe some drugs in order to improve the focus and memory of their wards. Under such situations in the guise of improving the focus and memory of the child, stimulant medications such as Adderall (Amphetamines) or Ritalin (Methyl Phenidate) are being prescribed by the physician, are psychotropic substances, having the danger of dependence, if taken for a while. These drugs are generally prescribed for treating ADHD (Attention Deficit Hyperactivity Disorder), which is a childhood disorder which affects the brain of a child. When there is a difficulty in focussing and concentrating on a particular subject by a child it is always presumed as ADHD. These psychotropic substances if taken for a while will have physical withdrawal symptoms and in the long run it affects the learning and memory of the child and even kills the brain

cells of the child. Continued use or abuse may lead to severe psychological and physical dependence.

Young parents who are anxious of bringing up their wards expect excellence in all the fields their children happen to venture. The fact remains that no one can excel in all the fields they are exposed to. Academic scores and rankings are only reflection of their talents and ability. Parents need to turn back and realise what shaped up their success and career.

Parents need to understand that constantly improving the skills can help solve problems. Skills can be categorised into hard skills and soft skills. All those which can be verified, validated or proved are called hard skills, like a degree, diploma, etc., and the soft skills are the personal traits like character and attitude which are more important in any one's life. Talents and ability can contribute to success up to a point, once we go beyond particular point ability or talent is a useless virtue. Major part of our success has nothing to do with our talent. It is what we do with the talent that matters. Far more than talent it is the attitude that matters and it is the attitude that decides the height of our success.

ii. Role of Law Enforcement Officers (LEO) and Schools in Drug Abuse Prevention:

LEO and school personnel missions and objectives can be different. Yet, they tend to have common grounds, which are considered significant and important:

They both have the responsibility for the safety and well-being of the students. Schools also carry an important responsibility towards the students, where they take on some of the functions and caregiving roles of the parents (known as in loco parentis). When it comes to LEO working within schools, they are

considered to have an intuitive extension into the school setting of their responsibilities for public safety in the broader community.

Training the newly recruited DSPs of Tamil Nadu Police on the impartance of Drug Demand Reduction

Schools, complemented by LEO, teach students about their rights and responsibilities in an effort to reinforce education for behaviour associated with good citizenship.

When LEO focuses on crime control strategies inside schools, it tends to be considered as a non-working modality. This is particularly true when contrasted to the paradigm of addressing substance use prevention.

However, the below reflections need to be considered when LEO is implicated in working on prevention in schools:

Problem oriented LEO:

This approach deals with crime and substance use through an analytical process. The underlying problems that lead to crime and substance use will be analysed to develop the best strategies for addressing these issues. The work will be done together

with the different stakeholders in the community (e.g. schools) through a collaborative problem solving partnership modality.

A designated LEO for the school:

The schools are part of the community. Therefore, the police-related organisations will need to invest in creating and developing a new line of LEO that operate as a direct link between the police and the schools. Additionally, to allow the LEO to focus on their work in the schools, they will need to be freed from the isolation caused in patrol cars and the demands of the police radio. This will allow them to maintain daily, direct, face-to-face contact with the schools they serve, in a clearly defined geographical area (known as the beat area).

iii. Role of Schools and Teachers in Drug Abuse Prevention:

Schools provide a rich environment to shape attitudes and behaviours that help youngsters remain drug free.

Teachers have a great influence over school children and can present facts about alcohol and drugs and help students make informed, healthy choices.

Teachers interact with children on a regular basis and are in a unique position to present the right messages clearly and consistently.

Teacher-led school based prevention programmes can help students:

- Recognize negative consequences associated with alcohol and drug use;
- Learn life skills which can help them build their positive qualities, handle difficult situations and develop healthy problem solving skills;
- Identify ways by which they can have 'fun and enjoy life' without substances: and
- Learn ways by which they can refuse an offer of drugs or alcohol and say 'no' assertively and remain drug free.

iv. Role of Civil Society in Drug Abuse Prevention:

Civil society plays a crucial role in drug abuse reduction efforts, complementing and often exceeding the reach of government initiatives. This role encompasses a wide range of activities, including:

Raising awareness: Civil society organizations (CSOs) like NGOs (Non-Governmental Organisations) and SHGs (Self Help Groups) can raise awareness about the dangers of drug abuse through educational campaigns, workshops, and community outreach programs. This can help reduce stigma and promote healthy behaviours.

Skill development: CSOs can provide alternative activities and skills development programs to vulnerable youth, reducing their risk of drug use.

Community mobilization: CSOs can mobilize communities to advocate for policies that support harm reduction and address the root causes of drug abuse, such as poverty and lack of opportunity.

v. Role of Youth in Drug Abuse Prevention:

Design and delivery of prevention programs: Youth can be involved in the design and delivery of prevention programs that are tailored to their peers. This can include developing educational materials, facilitating workshops and peer-to-peer counseling, and organizing community events.

Advocacy and policy development: Youth can advocate for policies that support drug prevention and harm reduction. They can also work to develop new policies and programs that are responsive to the needs of youth.

Research and evaluation: Youth can be involved in research on drug use and abuse among young people. They can also help to evaluate the effectiveness of prevention programs and policies.

Role modelling and mentorship: Youth who have overcome drug abuse can provide role models and mentors for other young people. They can share their stories and offer support and guidance to those who are struggling.

Community mobilization: Youth can mobilize their communities to take action on drug abuse. They can organize awareness campaigns, clean-up projects, and other events to raise awareness and promote positive change.

Raising awareness and educating their peers: Youth can use their social media platforms and influence to spread awareness about the dangers of drugs and promote healthy lifestyle choices. They can organize workshops, presentations, and other activities to educate their peers about drug abuse and its consequences.

vi. Role of Medical Practitioners and Pharmacists in Drug Abuse Prevention:

Medical Students attending a Drug Demand Reduction Awarness session at Chennai

The medical professionals and chemists have a bigger role in creating a drug free society. Healthcare professionals' are the pillars in creating a healthy society. Generally people are addicted to prescription and they believe that prescription drugs are good for health. This general mind-set makes them vulnerable in long term use of prescription drugs, even when there is no such medical condition. Prescription drugs containing Narcotic and psychotropic substances have the danger of dependency and are associated with addiction. Therefore when a person taking prescription drugs for any medical condition for a while or for

a prolonged period of time, it would be very difficult to stop the drug without physical withdrawal symptoms.

People believe that their ailments can be cured by taking more number of prescription drugs. Therefore, if a physician fails to prescribe certain number of prescription drugs they presume the physician is incompetent. Further if a physician prescribes for a test before prescribing a pill people feel that he could not diagnose the illness. This has got to do with the physician's fees for his professional service is generally high when compared to the cost of the drugs.

Further, the availability of drugs like sedatives, tranquilizers and pain killers at home which are meant for elderly people and its easy availability in the pharmacies make it more vulnerable for abuse by the younger generation. The porous drug dispensation system clubbed with unscrupulous practices by chemists' make these drugs easily available for the abusers for recreational purposes.

Medicines are drugs which can alter the body function either by speeding up or by slowing down the physiological activity to make the body feel better and in the process providing sufficient time to get the immune system to work against the illness. Therefore, these medicines can be taken only if there is a necessity and not as a matter of routine.

In view of the above the medical practitioners and chemists have an important role in changing the mind-set of the people by educating that the medicines are also drugs which can be taken only at times the body needs for better functioning. As healthcare pillars of the society the medical professionals need to prescribe drugs judiciously and change the mind-set of the people that the prescription drugs are dangerous to life if taken without a prescription or any over-dose.

The objective of a pharmaceutical firm is inconsistent with the mandate of the medical professionals in creating a healthy society. For any firm profit maximisation is the main goal. A pharmaceutical firm can increase its profit only by selling more and more medicines. Whereas, consumption of more medicine is an indicator of unhealthy society. A gradual decrease in use of medicines only can ensure a healthy society.

Medical Practitioners:

Prescribing and monitoring medication: Responsible for prescribing appropriate medications, including controlled substances, to manage pain and other conditions effectively while minimizing the risk of diversion and dependence.

Identifying and addressing drug use issues: Trained to recognize the signs and symptoms of drug abuse and addiction in their patients. They can initiate early intervention, provide counselling, and refer individuals to appropriate treatment services.

Educating patients and the community: Plays a crucial role in educating patients about responsible medication use, potential risks of drug abuse, and available support services. They can also raise awareness within the community through public talks, workshops, and other initiatives.

Collaboration with other professionals: Works closely with other healthcare professionals, such as pharmacists and social workers, to provide comprehensive and coordinated care for individuals struggling with drug abuse.

Pharmacists:

Dispensing medications safely and responsibly: Responsible for dispensing medications according to prescriptions, verifying patient information, and ensuring proper dosage and instructions.

Identifying and reporting suspicious prescriptions: Trained to identify potential cases of prescription drug abuse and diversion. They can report such cases to the relevant authorities and take appropriate action to prevent misuse.

Providing counselling and support: Can offer guidance and support to patients on medication use, potential risks, and available resources. They can also help patients understand their prescriptions and ensure safe and responsible medication management.

Promoting healthy lifestyles: Pharmacists can play a vital role in promoting healthy lifestyles and educating the public about drug abuse prevention strategies.

Collaborating with other healthcare professionals: Work closely with physicians and other healthcare professionals to ensure coordinated care for patients and contribute to effective drug abuse prevention.

4. Need for creating awareness and ambassadors against Drug abuse

Creating awareness on the drug menace is part of the drug demand reduction preventive strategy of the Government of India. The Ministry of Social Justice and Empowerment through various Central Government Ministries and State Governments and Union Territories is creating awareness and ambassadors against drug abuse.

Demand Reduction and Supply Reduction: A Winning Policy Combination adopted by United States.

Demand reduction efforts reduce the demand for illegal drugs using prevention, treatment, and research. Supply reduction makes drugs scarcer, more expensive, and less socially tolerated.

For the past 40 years, US drug policy has been a balance of supply reduction (law enforcement) and demand reduction (treatment, prevention and research). The outspoken opponents of this strong combination call for the removal of the law enforcement side of this strategy, claiming that the nation's policy choice is either law enforcement or treatment. Nothing could be farther from the truth. It is the combination of both demand reduction and supply reduction that brings success. Many people who receive treatment for substance use disorders in the US today do so because law enforcement requires them to be in treatment. Cutting out the strong arm of the law would, in one blow, significantly reduce the number of individuals in treatment. What is needed for the future is not a choice between law enforcement and treatment, but rather new polices that unite law enforcement and treatment to work together more effectively over long periods of time.

Supply reduction is an effective tool for demand reduction because when drugs cost more and are more difficult to obtain there are fewer drug users and less demand for illegal drugs. Demand reduction is also an effective tool in supply reduction because when the number of drug users falls, drug supply falls correspondingly as the market for illegal drugs shrinks. Linking these complementary approaches maximizes the impact of the national strategy on illegal drug use by attacking the drug economy from both sides.

While this one-two punch has worked well in the past, the best hope for future reductions in drug use lies in improved and more cost-effective demand reduction. If the demand for illegal drugs remains high, then the money spent by would-be drug users would sustain a large supply of illegal drugs no matter how effective the supply reduction becomes. The search for what can be called real demand reduction is the heart of tomorrow's drug prevention policy. The criminal justice system can be harnessed

to become a major engine of recovery. That is the future of an improved drug policy, not the elimination of the criminal justice system from drug policy.

A common refrain in drug policy debates today is that the nation "cannot arrest its way out of the drug abuse epidemic." That is true. In fact, the recognition of that truth led to first massive investment in treatment, prevention and research in the early 1970s in the United States under President Richard Nixon. What is seldom heard is a parallel statement, "we cannot treat ourselves out of the drug abuse epidemic." While seldom articulated, this statement is equally true because of high costs and because of the glaring fact that treatment alone seldom leads to sustained recovery.

It is essential to use both law enforcement and treatment to achieve goals neither can achieve alone. It is also painfully clear that both law enforcement and treatment need to become smarter and more effective including using less incarceration and focusing on using the leverage of the criminal justice system in parole and probation to improve treatment outcomes while also reducing the commission of new crimes and incarceration.

The Parents' Movement

The significant fall in illegal drug use in the US between 1979 and 1992 can be traced to many factors. One key factor was the impact of a national coalition started in the 1970s known as the Parents' Movement. During the 1980s the message of the Parents' Movement with "Just Say No" campaign was most popular. During the Administration of President George H.W. Bush, this anti-drug leadership was strongly supported. While this effective effort to de-normalize illegal drug use has often been seen as politically partisan, it was never a partisan movement.

Today's parents need to look back and learn from the success of the Parents' Movement that was dramatically effective in the 1970s and 1980s. Reinventing and improving on the Parents' Movement for the twenty-first century will provide organization, energy and education that is essential to reducing illegal drug use.

Interacting with Medical Students on Drug Demand Reduction in Telangana

Learning from the past

The Parents' Movement suffered neglect after 1992, when the modern drug legalization movement was launched behind the promotion of "medical" marijuana, first legalized in California in 1996. Without the organized efforts of committed parents, illegal drug use rates again rose sharply. Once mocked by some experts and officials, the Parents' Movement remains an inspiring testimony to the power of a relatively small, focused and dedicated group of people. Their experience demonstrates that "ordinary" parents, educators and others are an extraordinary resource in prevention.

After 1992, there was a rapidly growing and lavishly funded effort to normalize drug use, especially but not only marijuana use and to remove the role of the criminal justice system in the balanced national drug control strategy. While the leading edge of this movement was "medical" marijuana, beginning in 2012 it has promoted the outright legalization of marijuana for anyone aged 21 and older. There are increasing efforts to get currently illegal drugs on the same path thought the "medical" door starting with the psychedelics but extending to all currently illegal drugs. It therefore becomes essential for the civil society to look back at the movements such as parent's movement and ensure that such an endangering eventuality does not arise.

Conclusion

With a population of more than 1.4 Billion India now accounts for the most of the youth population in the world surpassing China. History has demonstrated that the explosion of youth population is considered as a bellwether to the nation transforming into economic super power. As this economic indicator being high stakes opportunity, reaping the demographic dividends without pilferage is need of the hour. It is therefore necessary to save the youth from falling prey to drug abuse, as the modern warfare has transformed in to a proxy war by inducing Indian youth to drugs, to harness the full potential of the nation's human resources.

The Indian Government has taken a significant step to help alcohol and drug abusers by launching a national toll-free helpline number – 1800-11-0031 and control drug abuse in India. The helpline was started to set in motion Indian Prime Minister Narendra Modi's plan to eradicate the menace of drug abuse in India and assist the existing victims in successful rehabilitation.

The Government's efforts to promote development and fight against drugs and crime will be more effective if they are rooted

in partnership with the youngsters and civil society. Working together, we can alleviate the suffering of millions and break the hold of drugs and crime on our communities and families.

There are many good virtues of being a Human, like wisdom, working hard, punctuality, integrity etc., In my opinion the best virtue of a human being is the **"Ability to say no, when you are under pressure."** I sincerely hope that every curious teenager, to whom this book is dedicated, will have the guts to **"Say no to drugs, for the first time and every other time, even under pressure"**.

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About the Book

The menace of drug abuse in the younger generation has been rising all over the world and India is no exception to it. Addiction to Drugs is now recognized globally as one of the real dangers, which the world faces. It damages the individual and society very silently. This "Silent Terrorism" of drug abuse destroys mankind eventually. Adolescents are adventurous, self-confident and often do new things to show that they can. By and large this is the age at which most addicts get initiated into drugs. This book helps to uncover some of the lesser known facts of various facets of drugs and addiction providing information about legalities, National objectives, impact on human body and on the society and the risks involved in handling the drugs, to the various stake holders across the spectrum in creating a drug free society.

"Drugs bring with it darkness, destruction and devastation"

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