

Physical Impact of Drugs

Misuse and Abuse

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The year just ending has seen the 'drugs problem' move centre stage yet again. This article presents an overview of the drugs which are most widely used and abused in Ireland and indicates what these drugs do to the human body.

What are Drugs?

Drugs are chemicals which cause either physical or mental changes in body functioning. These chemicals may be natural, such as cocaine, semi-synthetic, such as heroin and ecstasy, or totally synthetic, such as methadone. All of the drugs dealt with in this article change the way the brain works, i.e. they are psychoactive or psychotropic agents. These mood-altering drugs change the way we think, act and feel. There is a perception that people use drugs for negative reasons -because they are depressed, unhappy, etcetera and we forget that most drug users get intense pleasure and enjoyment out of the drugs they consume.

There is, however, a price to be paid for the pleasure and enjoyment because all drug-taking involves risks. There is no such thing as a safe drug, there never was and there never will be. While most drug users take their drug for its mental effects, the drug is also affecting other parts of the body, thus physical effects are also part of the equation.

Types of Drugs

While these psychoactive drugs have the brain as their common target they actually affect the brain and the body in different ways. For example, depressant drugs like alcohol slow down the brain, whereas stimulant drugs such as cocaine and amphetamine literally



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speed up the body. Narcotics of the Heroin type are powerful painkillers which cause sleep. Hallucinogens constitute another class of drugs, e.g. LSD ('Acid') which give rise to complex mental experiences. However, there are drugs which do not fit neatly into a single category. Cannabis is the most widely used of the illegal drugs; it is also one of the most complex, given that it is a mixture of over 400 different chemicals, some of which have contradictory effects on the body. It can cause euphoria, depression and, if enough is used, it could cause hallucinations.

Drug-Related Problems

Sometimes there is a tendency to view the risks of drug-taking in very narrow terms. There is an emphasis on addiction/overdoses and more recently on HIV and AIDS. Such an emphasis could be misleading, both in terms of evaluating the harmfulness of a particular drug and also in relation to attempts to respond constructively to problem drug-taking. It is necessary, therefore, to take a very broad view of what constitutes a drug-related problem and to include under this heading, not just the obvious addiction etcetera, but also the concepts of drug-related disease, drug-related crime, drugs in pregnancy, the effect of drugs on learning and work/, n accidents and on behaviour.

Addiction

Addiction, or to give its jargon term, **drug dependence**, is the compulsive use of a drug on a regular basis in order to experience its psychoactive effects or to avoid the discomfort of its absence. There are different types of dependence, i.e. dependence on the opiate type, dependence on the alcohol type and so on. Many drugs result in compulsive use after repeated exposure to them. Examples include heroin and other opiates, alcohol, tranquillisers, nicotine, cocaine. Sometimes the dependence is physical, sometimes it is psychological. The latter is the most difficult to deal with. Addictive use is the most serious problem a drug user can face because it often means daily exposure to the drug. However, some drugs are not particularly addictive, e.g. LSD, but that does not make LSD a 'safe' drug. Equally, it is possible to use an addictive drug on a regular basis but not be addicted to it. Alcohol is a good example where most alcohol users are not addicts but still are at risk from a host of medical, legal, social and other problems.

Overdoses and Sudden Death

Another classical way of assessing a drug is to ask does it result in death if you overdose on it. Some drugs, e.g. heroin, cocaine, alcohol, are lethal in overdose. Others can cause sudden death, for example, solvents in glues/aerosols and gas canisters, and above all MDMA or 'Ecstasy'. On the other hand there are drugs such as cannabis and LSD which have never killed anyone in overdose.

Drug-Related Disease

The well-recognised link between drug abuse and HIV transmission is just one facet of drugs and disease. It; is an aspect of what is called **Technique-Specific Disease**, i.e. disease related to the way the drug is used rather than a particular drug. Specifically it is due to the injection of drugs using shared contaminated needles, syringes, mixing bowls – what addicts call the 'works'. It does not matter what drug is injected – it could be heroin, it could be amphetamines, it could even be anabolic steroids by body-builders – as long as there is sharing of equipment, there is the risk of sharing not just HIV but also all the Hepatitis viruses (B, C and D), blood poisoning, abscesses, gangrene and so on.

A second aspect of drug-related disease is one that is often neglected, namely, **Substance-Specific Disease**. That is, disease caused by the direct toxic effect of the chemicals on different parts of the body. Examples include:-

Brain and liver damage	–	Alcohol
Lung and heart disease	–	Tobacco and Cannabis
Strokes and heart disease	–	Cocaine
Heatstroke and liver damage	–	Ecstasy

In addition we should take into account the acute psychoses which can be triggered by cannabis, the depression due to chronic Ecstasy use and the more prolonged mental illness which can be precipitated by LSD.

Drugs and Pregnancy

If a pregnant woman is using drugs, the foetus in her womb will also be exposed to the drug at key and vulnerable stages of its physical and mental development. The results can include babies born addicted to opiates, physical abnormalities related to cocaine and alcohol, retarded intra-uterine growth and development due to exposure to alcohol, tobacco and cannabis.

Drugs and Learning

One of the most consistently reported effects of the use of any of the cannabis group of drugs, i.e. herbal marijuana, resinous hash or the distilled hash oil, is a damaging effect on short-term memory and learning ability. Evidence has accumulated from laboratory studies where cannabis disrupts all test of learning ability, from surveys of young cannabis users who are still impaired six weeks after becoming drug-free and from surveys of adult daily users who overwhelmingly report memory and concentration difficulties.

Drugs and Accidents

The major culprit in this category has to be alcohol and the, recognised scale of the problem needs little further comment from me. In addition, other drugs can cause accidents, including tranquillisers and in particular cannabis. In many countries cannabis use is now recognised as a major cause of injuries and deaths in car, truck and rail crashes. In one U.S. study of fatal truck crashes, younger drivers tended to have detectable levels of cannabis in their blood while alcohol was predominant in older drivers. It is perhaps surprising that cannabis and alcohol appear at the same percentage frequency in such accident victims.

Drugs and Work

Arising from several high profile accidents involving workers under the influence of drugs, many large employers in the U.S. and in Europe have begun to tackle the cost implications of drug use by their work force. Such drug use results in an increased risk of accidents as exemplified by the train crash at Chase, Maryland, in 1987 where 16 people were killed and the probable cause was determined as the use of cannabis by the driver of the train. In a survey carried out in the Boston Postal Service in 1990, it was found that new staff who tested positive for cannabis in a pre-employment screen had 55% more industrial accidents, 85% more injuries and a 78% increase in absenteeism compared to non-drug users. Those workers who tested positive for cocaine had a 145% increase in absenteeism and an 85% increase in injuries. The resulting cost of drug use by employees in the U.S. has been estimated to be in excess of \$47 billion a year.

Drugs and Behaviour

For many drug users, it is the changed behaviour under the influence of the drug which can be the most damaging aspect of their drug use. A good example of this is the violence associated with alcohol. The confused drunken behaviour associated with solvents is often the major risk for most

youngsters involved in solvent abuse. Particularly worrying is the delusional behaviour resulting from LSD use given the increased popularity of this drug in 'Rave' setting. With cannabis the development of an apathetic negative outlook and attitude can be particularly destructive for many young people.

Drugs and Crime

There is a widespread perception that drug use is associated with both violent and acquisitive crime. There is no clear-cut explanation for this perception because it is clear that no drug is inherently criminogenic.

Most people associate the expression 'drug-related crime' with acquisitive crimes carried out by opiate addicts to obtain money for their next 'fix'. Street heroin is expensive and addicts do commit robberies to obtain money for drugs. Violence and threats of violence are used in the course of robberies but generally speaking heroin and other opiates tend to reduce aggressive violent tendencies rather than create or release them. The link between opiate abuse and crimes against property may not be totally valid according to the findings of research studies. There is no doubt that the high cost of street opiates is a major factor in the criminal careers of many addicts.

However, Inciardi and McBride have reviewed much of the American literature and noted that among the majority of street users who are involved in crime, their criminal careers were well established prior to the onset of drug use. The MSRB study of heroin users in Dun Laoghaire (1984) stated that 61% of the heroin users in that area had been arrested for crimes before they began to use the drug,

More recently, Ramsay, writing in the magazine *DrugLink* (July/August 1994) about the situation in Britain, noted that 'there are few grounds for linking the growth in recreational drug use with increasing property crime'. Other U.K. researchers in this area have said that 'most crime is not committed by drug users at all' and that acquisitive crime is only one of a variety of funding sources available to an addict. The most up-to-date study on the cost of heroin-related crime was performed by a group led by Baker from the Institute for the Study of Drug Dependence in London. A summary of their findings was published in *DrugLink* in November 1994. In this report the authors challenged the calculation that half of acquisitive crime in England and Wales was committed by opiate or cocaine addicts. They found that heroin users in England and Wales raised between £58 million and £864

million from acquisitive crime in order to purchase heroin. This estimate amounts to between 1 and 21 per cent of the total cost of acquisitive crime in England and Wales. They point out that the data is very poor, leading to a wide variation. It would be instructive to have similar research conducted here particularly in view of the new money-laundering offences. **A realistic picture of the actual operation of the drug market in this country is long overdue.**

Drug and Violent Crime

One of the U.K. reports on drugs and crime also noted the strong link between smokeable cocaine ('Crack') and violent crime. This is probably due to the paranoia which results from the prolonged use of stimulants such as cocaine and the amphetamine-type drugs, thus triggering extreme violence. At the present time/given the use levels of such drugs, these are potential risks, as are the risks of violence resulting from the disinhibiting effects of some tranquillisers, e.g. temazepam and flunitrazepam prescribed for some opiate users.

Alcohol and Violence

A more real risk of violence is associated with a more mundane drug, namely alcohol. The Royal College of Psychiatrists in the U.K. estimated that alcohol was involved in up to 50% of murders and up to 70% of assaults. In an analysis of more than 9,000 violent crimes reported from 11 different countries, Murdoch and co-workers found that nearly two-thirds of violent offenders were drinking at the time of the crime. They report that it is now widely accepted that alcohol has a direct and dose-related effect on aggression in humans with a particularly strong relationship between alcohol consumption and marital violence.

Conclusion

It can be seen, therefore, that just as the drugs that people take are different, so are the risks they run. The future will bring new drugs and new risks as well as new, more damaging, ways of taking old drugs. It would be foolish to attempt to predict future trends. Just as few would have predicted the rise of Temgesic as a heroin substitute in the mid-80s and the emergence of Ecstasy in the 1990s, so no one can predict which will be the drugs of the future. What is certain is that drugs will continue to devastate the most vulnerable and valuable of our citizens, the young. It is equally certain that society's response will have to be a balanced mix of law enforcement, treatment and education. Getting the balance right is vital to the continued physical and mental wellbeing of this society.