Psychoactive drugs and the drug problem

In the second of his Background Briefings, Professor David Clark introduces psychoactive drugs and describes a simple classification of drug type based on their major mode of impact on the mind. The multitude of factors that influence the way that a drug can affect a person, and that ultimately can contribute to a drug problem, are briefly introduced.

A psychoactive drug is a chemical substance, whether of natural or synthetic origin, that affects the brain to produce alterations in mood, thinking, perception or behaviour.

People throughout history have made considerable efforts to discover and invent substances that will help them change their psychological state. Psychoactive drugs have always been, and will always be, part of everyday life. People take them for their pleasurable effects, to reduce the stresses of everyday life, to experience new subjective states, and to help overcome 'clinical' conditions such as depression or anxiety.

Use of some psychoactive drugs has been made illegal by society and their consumption can lead to judicial consequences, even when it is argued that some of these drugs have benign adverse effects. Other psychoactive drugs are legal, despite the fact that their misuse is associated with negative effects for both individuals and communities. Others are mass-produced in vast quantities by drug companies to satisfy the demand of doctors and patients. Some people consider these prescription drugs to be unsafe.

There are thousands of psychoactive drugs, many of which share common properties with drugs of a similar chemical structure. Psychoactive drugs can be grouped in various ways; one simple classification that is commonly used is based on their major mode of impact on the mind. This classification groups drugs into sedatives, stimulants, opiates, hallucinogens, and drugs that exert mixed actions.

Sedatives come in the form of alcohol, minor tranquillisers such as valium and other benzodiazepines, barbiturates such as nembutal, as well as anaesthetic gases and other volatile substances such as gas lighter fuels. These substances have the common property of down-regulating mental activity, producing a state of relaxation or sleepiness. They can slow reaction time and impair co-ordination. Higher doses produce intoxication and sometimes unconsciousness.

Stimulants include amphetamine, cocaine and caffeine. These drugs up-regulate mental activity, causing alertness, feelings of enhanced energy, and excitement. However, these drugs can also produce agitation and anxiety. Long-term use of stimulants can produce symptoms that closely resemble paranoid psychosis, i.e. thought disorder and hallucinations.

Opiates include the naturally occurring opium, as well as a wide range of synthetic drugs, including morphine, heroin and methadone. Although these drugs produce sedative effects, they can also produce a special and intense kind of euphoria. Opiates are well-known for their pain-relieving properties.

Hallucinogens include the naturally occurring plant mescaline as well as LSD and a range of other synthetic drugs. These drugs change a person's perception of the world, distorting what is heard or seen, or leading to a person experiencing things that don't really exist.

Drugs that cannot readily be fitted into one of these classes include cannabis (sedative and hallucinogen), nicotine (sedative and stimulant) and ecstasy (stimulant and hallucinogen).

Although we have categorised drugs in this fashion for convenience purposes, we must not assume that drugs have fixed effects dependent purely on their chemical properties. Sadly, far too many people believe the idea that specific drugs have fixed and predictable effects, which are the same from person to person.

In fact, the way that a drug affects a person depends on three factors:

- The drug (the pharmacological action of the substance itself)
- The set (personality, attitudes and expectancies, physical condition of the user)
- The setting (the influence of the physical and social setting within which the use occurs).

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When trying to understand a drug effect and ultimately a drug problem, the situation is made all the more complex by the fact that each of these factors can be broken down further. For example, the impact of the first factor (the drug) needs to take into consideration the amount of drug taken (dose), the route by which the drug is taken (eg by injecting or by mouth), and the speed by which the drug reaches the brain.

The situation is made more complex by the fact that drugs are not taken on a single occasion. If a person likes their experience they will use the drug again, and then on repeated occasions. When this happens, the brain tries to adapt to the changes that each dose of the drug produces. This brain adaptation can lead to alterations in future drug effects. It can also lead to changes in psychological experience when the person is drug-free, e.g. depressed mood after long-term amphetamine use.

It is made even more complex by the fact that many people who develop a drug problem do not use just one drug. For example, a person who misuses amphetamine may also take benzodiazepines, to help them overcome the adverse effects of the stimulant. This leads to more adverse effects.

It is made more complex again by the fact that the person is probably purchasing an impure product in an unsafe environment (from 'the street') at a time that they are possibly experiencing adverse health, social and emotional problems.

And, finally, it is imperative to stress that a person may have already have problems of social deprivation, childhood abuse, learning difficulties, and personality problems before they developed a drug and/or alcohol problem.

There is a long and tangled path between the psychoactive drug and the drug problem in today's society.