The effects and management of crack cocaine dependence

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The past two decades have witnessed a steady increase in the use of crack cocaine in the UK. In response to this trend the government produced *Tackling Crack: A National Plan* (Home Office, 2002a), which is designed to run parallel with the updated drug strategy (Home Office, 2002b). While all class A drugs have the potential to undermine individual health and the social stability of communities, it is believed crack has a particularly high potential due to its association with violent crime and community disorder (Home Office, 2005).

A significant development took place in the 1970s when cocaine was chemically altered to produce a smokeable version – now known as crack. The use of crack has risen significantly, partly because it is relatively easy to make and also because of its highly addictive properties. The British Crime Survey reported a significant increase in cocaine use between 1996 and 1998 in the 16–29 age groups – seizures of cocaine, including crack, rose by 32 per cent during this period (Home Office, 2000).

**What is cocaine?**

Cocaine hydrochloride belongs with a group of drugs described as stimulants, which act on the central nervous system. Other stimulants include amphetamines, caffeine, tobacco, anabolic steroids, alkyl nitrates and khat.

Cocaine is made from the leaves of the coca plant and is sold in the form of a white powder. The effects of inhaling (‘snorting’) cocaine intranasally last approximately 30 minutes.

Cocaine produces its effects by working on neurotransmitters in the brain. The three neurotransmitters specifically affected are dopamine, serotonin and adrenaline. Dopamine and serotonin are related to feelings of pleasure and encourage us to repeat the action. Adrenaline is responsible for the ‘fight or flight’ response and feelings of anxiety (Clark, 2000). Cocaine produces a feeling of alertness, confidence and well-being. When its effect diminishes users often experience a strong craving for the drug.

**What is crack?**

Crack is classified as a strong, short-acting stimulant drug that usually lasts for 10 minutes. It is a smokeable form of cocaine that has been manufactured into ‘rocks’. The manufacture process is known as freebasing. It involves dissolving cocaine hydrochloride in water and heating it with a chemical reagent such as baking soda or ammonia to free the alkaloid base from the salt. During manufacture the chemicals make a cracking sound, hence the name crack. It is usually smoked in a pipe or a glass tube. Rarely, crack cocaine is prepared for injection. The effects of smoking crack cocaine are similar to snorting cocaine but more intense.

**Cocaine use/misuse and legal classification**

Cocaine, its various salts and the leaves of the coca plant are controlled under class A of the Misuse of Drugs Act (1971). The maximum penalties for possession of crack or cocaine are imprisonment for seven years and/or a fine. The maximum penalties for supplying either drug are 14 years in prison and/or a fine. It is illegal to allow premises to be used for producing and supplying crack or cocaine.

**Aetiology and risk factors**

Cocaine hydrochloride and crack cocaine are associated with a range of physical and mental health problems. It is possible to die from respiratory failure or heart failure as a consequence of use. Crack is associated with furring of the coronary arteries with fatty deposits leading to premature myocardial infarction. Morbidity arising from use is linked to hypertension, ventricular fibrillation, chest pain, shortness of breath and respiratory arrest.

Neurological complications of use include cerebrovascular accidents, seizures and headaches. Musculoskeletal problems include muscle spasms and tremor. Crack users may experience gastrointestinal symptoms such as abdominal pain, nausea and vomiting. Genitourinary symptoms may occur, for example increased or diminished sexual appetite. Users may also experience malnutrition and weight loss. Pregnancy may be complicated by use and the risk of birth defects is increased.
Route-specific dangers exist, and intravenous use carries the greatest risk because of the risk of overdose or exposure to blood-borne diseases. Users may experience impaired mental functioning. Specific symptoms include sleep disturbance, anxiety, paranoia, grandiosity, transient psychotic reactions and hallucinations. Violence and aggression are also linked to crack use (DoH, National Addiction Centre, 2003).

A range of social complications is associated with crack and cocaine use, linked to the methods used to acquire the drug. Crime and prostitution are closely linked to crack use and pose threats to health and social stability. Financial difficulties may also arise as a consequence of use.

Dependence
Stimulants such as crack and cocaine tend to be associated with psychological rather than physical dependence. Dependence varies according to the mode of administration. Smoking has the highest dependency-forming potential, however, intranasal use of cocaine is also likely to induce dependence. Withdrawal symptoms can be mild to moderate and differ for each individual (Table 1).

Diagnosis
A physical examination and a clinical history are required to diagnose dependence and withdrawal. Stimulant use can be confirmed by urinalysis and/or oral fluid swab.

Treatment
In contrast to opiate misuse there is no recognised pharmacotherapy for cocaine dependence, although antidepressants have been used to treat symptoms of drug-induced lowered mood. This reinforces the importance of motivation and the therapeutic relationship between client and nurse/drug counsellor as the incentives for concordance with treatment are not anchored in substitute prescribing (National Treatment Agency, 2002).

Many cocaine and crack users also use alcohol to ease cocaine withdrawal or to enhance the effects of the drug. Psychosocial interventions such as cognitive behavioural therapy or counselling, in a non-residential setting, are the most cost-effective options for clients who have few complicating problems.

However, those who have additional difficulties may benefit from treatment in a residential rehabilitation unit. Working with the client to alter drug misuse behaviour is deemed to be more successful than discussing emotions. Other helpful strategies include rewarding recovery-promoting activities and altering the client’s social environment to promote abstinence. Complementary therapies have been successful in retaining clients in treatment, however, more research is required to establish their impact (Scottish Executive, 2001).

Nursing implications
It is notoriously difficult to quantify the number of stimulant users who require treatment and therefore even more difficult to plan treatment services to meet their needs. The most reliable figures available are from the criminal justice system, as many stimulant users do not enter into treatment. One reason for this is that drug treatment services were originally established to meet the needs of opiate users. Therefore, these services did not have the specific skills and resources to support stimulant users. The Home Office (2002a) reinforces this position: ‘Generic programmes aimed at tackling the problems caused by illegal drugs have not always addressed crack with the weight and vigour the nature of the drug deserves.’

The current situation is that many localities have set up stimulant-specific services while others have developed treatment protocols for stimulant users within their existing services. This has been achieved through the appointment of stimulant specialists (sometimes an ex-user, embracing the concept of the expert patient).

Drug treatment services have also sought appropriate training to develop the required knowledge and skills to support this client group. It is recognised that the rate at which crack and cocaine use has escalated over the past two decades has outstripped the provision of strategies to meet the needs of this group. While there have been significant positive steps taken to improve treatment, further research is currently under way to strengthen the existing evidence base.

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