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*Simon Hatcher BSc, MBBS, *Tutor in Psychiatry and Honorary Registrar in Psychiatry, Department of Psychiatry, University of Leeds, Leeds*; Ruth Sims, MBChir, MRCPsych, *Tutor in Psychiatry and Honorary Registrar in Psychiatry, High Royds Hospital, Menston, Ilkley*; David Thompson MBBS, MRCPsych, MSc, *Consultant Psychiatrist, Malham House Day Hospital, Leeds*

*Correspondence: *Department of Liaison Psychiatry, Leeds General Infirmary, Great George Street, Leeds LS1 3EX*

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Do-Do Abuse

S. LOOSMORE and D. ARMSTRONG

Three cases of prolonged abuse of Do-Do tablets, an over-the-counter remedy for "coughs, wheezing and breathlessness", are reported. They have an amphetamine-like action and were used as easily obtained amphetamine substitutes, in one case to relieve social anxiety. Withdrawal symptoms similar to those following cessation of amphetamines occurred in two cases. Do-Do tablets are CNS stimulants and their abuse may be accounted for by the fact that they perhaps affect amine neurotransmitters.

Many over-the-counter remedies for coughs and colds contain one or more central nervous system (CNS) stimulants. Abuse of such medication is recognised, but, until recently, infrequently reported in the medical literature. Most previous reports have concentrated on the acute sequelae of long-term use or abuse.

Do-Do tablets, containing ephedrine hydrochloride (222 mg), caffeine (30 mg), and theophylline sodium glycinat (50 mg), are widely available over the counter and marketed for the relief of "bronchial coughs, wheezing and breathlessness". The packet instructions are brief, stating that no more than three tablets should be taken in twenty-four hours. There is no comment on possible side-effects or the consequences of exceeding the stated dose.

We report, in detail, three cases of prolonged abuse of Do-Do tablets.

Case 1

A 33-year-old, separated, unemployed man was referred to the addiction services with a 15-year history of abuse of Do-Do tablets. He feared that his drug use would prevent access to his children. His stated aim was to abstain.

His mother and maternal grandfather have suffered endogenous depression. His father and paternal uncle are withdrawn, inaccessible individuals and his paternal grandfather, although not formally diagnosed, was an odd man.

Since childhood he had been reclusive with difficulty in forming stable relationships. At school he would sit curled up in a corner with gaze averted, and without speaking. Because of his evident oddness he was bullied.

As a child he was diagnosed as asthmatic. At eighteen he discovered that Do-Do tablets had the dual benefits of relieving his dyspnoea and producing feelings of euphoria. He rapidly increased his consumption to an average of 30 tablets daily; this dose continued unchanged until his referral. In addition to Do-Do tablets he had, in the past, intermittently taken up to one gram of oral amphetamine sulphate daily although his preference was always for Do-Dos. His alcohol consumption was regular but moderate, averaging nine pints of cider weekly.

In 1984 he had a brief admission to a psychiatric hospital because of persecutory ideation. He had been carrying a knife for protection. He did not reveal his use of Do-Do tablets and the symptoms were felt to be due to amphetamine abuse. On other occasions, having taken large amounts of amphetamine, he would experience transient suspiciousness. He had stopped using amphetamine without difficulty three years before referral.

He had a stormy, short-lived marriage to an emotionally unstable ex-prostitute. After their separation, two years before referral, he became miserable, increasingly withdrawn and morbidly ruminative. Apart from Do-Do hunting he rarely ventured out.

He was admitted for assessment. He was emotionally flat with poor rapport and eye contact. He was vague and preoccupied with his marital breakdown. There was no thought disorder, nor any abnormal ideas or perceptions. Cognitive testing was normal as was physical examination. There was little somatic disturbance and he was not clinically depressed. Routine laboratory tests were normal and HIV and syphilis serology were negative.

The Do-Dos were stopped abruptly. Over the next forty-eight hours he became listless, muddled and had difficulty concentrating. He developed ideas of reference, believing that fellow patients were discussing him. Within ten days these symptoms had resolved without medication. Spontaneity, eye contact and mood all improved. He began to complain of intermittent chest tightness without evidence of bronchospasm. Within a few days of discharge he resumed Do-Do use in similar quantities as before admission.

Case 2

A 46-year-old, separated, unemployed man living with his parents is seen regularly as an out-patient, as he receives maintenance methadone (25 mg daily), and diazepam (25 gm daily). He drinks a litre of Crème de Menthe a week. He has been taking 9–12 Do-Do tablets daily for 30 years although his consumption decreased when also using amphetamines. He believes that Do-Do tablets have no psychological effects after such prolonged usage, but that were he to stop he would become depressed: "they help me to cope, warding off depression." He has no intention of stopping or reducing his consumption.

He obtains his supplies from a local chemist who informally regulates the number he consumes by claiming occasionally that he has run out of stock.

Since the age of 19 he has abused a wide variety of psychoactive drugs including cannabis, barbiturates, codeine, heroin, amphetamine, cocaine and cyclizine and considers

that Do-Dos closely resemble amphetamine in their effects. He has, in the past, injected using shared equipment but no longer has venous access.

He has no psychiatric history apart from drug abuse. His father suffered a depressive illness in the past and is now in the early stages of dementia. He has not worked for several years, but in the past has had several jobs including psychiatric nurse, civil engineer and factory shift manager.

Mental state examination shows an intelligent, erudite, well-spoken man. His talk is vague and circumstantial and he occasionally drifts from the point. His humour is self-mocking and he establishes fair rapport. His mood is neutral and there is no evidence of cognitive impairment.

Case 3

A 36-year-old divorced lady is seen in the Addiction Unit out-patients clinic in order to regulate her intake of benzodiazepines and administer her twice-monthly fluphenazine injection. She is said to suffer from chronic schizophrenia complicated by poly-drug abuse.

Her upbringing was chaotic. Her mother drank heavily and her father was physically violent. There is a strong family history of drug and alcohol abuse. Her current cohabitee has a longstanding alcohol problem, abuses amphetamines and is physically violent towards her.

She first became psychiatrically ill aged 16 years since when she has had numerous hospital admissions with acute psychotic episodes characterised by disturbed behaviour, thought disorder and third-person auditory hallucinations. When she complies with depot medication it is effective in controlling acute relapses. She has an extensive history of overdoses, wrist slashing and manipulative behaviour. There is a long history of minor offending, including soliciting, and she has spent several short periods on remand.

She started experimenting with drugs aged 15 and over the years has abused a wide variety of compounds including alcohol, chloral hydrate, benzodiazepines, barbiturates, amphetamines, cocaine, heroin, LSD and solvents. Her stated preference is for benzodiazepines and stimulants. She uses both orally and intravenously and at times will take combinations of whatever drugs are available.

She began using Do-Do tablets 15 years ago after being told of their stimulant effects by a fellow psychiatric patient. She regularly takes 15–30 tablets a day, purchasing them from a variety of chemists. She says that they help keep her awake, give her more energy and increase her sense of well-being. Although she prefers the effect of amphetamine sulphate, Do-Do tablets are cheaper and easier to obtain. She states that when she has suddenly stopped using Do-Dos she has become depressed, lethargic and slept excessively for periods of up to seven days. She has intermittently abused a number of other over-the-counter preparations containing sympathomimetics, but never for longer than a few weeks at a time. She does not feel that her abuse of Do-Dos or other drugs is related to her psychotic breakdowns.

She presents as a bizarrely dressed woman who attempts but fails to look younger than her years. She makes poor eye contact but answers spontaneously. Her speech is vague, circumstantial and impoverished. Her thought

processes tend to be concrete. When well she has good insight into her abnormal experiences.

Discussion

Drugs with a central stimulant action (e.g. sympathomimetic amines and methylxanthines) are frequent constituents of over-the-counter preparations which are widely available through retail pharmacists. Until recently little has been written about the abuse potential of these preparations. The first report of ephedrine abuse appeared in the English literature 20 years ago (Herridge & A'Brook, 1968). This and subsequent reports have concentrated on the acute psychosis induced by prolonged or excessive use (e.g. Lambert, 1987; Whitehouse & Duncan, 1987). Long-term patterns of abuse are less well documented. Pugh & Howie (1986) described a patient who abused Actifed (containing pseudoephedrine and triprolidine) for its stimulant properties. Jelley (1987) briefly reported the abuse of Phensedyl (containing ephedrine, codeine phosphate and promethazine) among young men in a small country town. Whitehouse & Duncan (1987) reviewed 20 case reports of ephedrine psychosis. Of these 20 cases, three patients took ephedrine purely for its stimulant properties, two were asthmatic but increased the dose of ephedrine for its stimulant properties and two others were poly-drug abusers. The authors stated that, in the majority of the 20 cases, the dose of ephedrine gradually increased with length of use.

All the constituents of Do-Do tablets are CNS stimulants. Moderate doses of caffeine (100–300 mg, equivalent to 3–10 Do-Do tablets or 1–4 cups of instant coffee) may improve some aspects of psychomotor and intellectual performance (Rall, 1985). Larger doses (> 300 mg) can alter mood (Lader & Bruce, 1986), although studies have produced contradictory findings on the magnitude and direction of the effect (Gilbert, 1988). In human behavioural studies, caffeine has an inconsistent reinforcing effect producing an increase in subjective drug-liking. This effect has marked individual variation and may be potentiated by physical dependence on caffeine (Griffiths & Woodson, 1988).

Theophylline sodium glycinate contains 51% anhydrous theophylline. Compared to caffeine it has a more powerful stimulant action on the CNS. At doses just above the therapeutic range it causes nervousness, tremor, insomnia and restlessness. Higher doses can cause convulsions. The stimulant effects are not well studied as they are principally seen as side-effects of asthma (Rall, 1985).

Ephedrine is structurally similar to amphetamine although its stimulant effect is said to be considerably

less. The central effect of both is due to the release of naturally occurring amines from pre-synaptic nerve terminals in the CNS. Caffeine and theophylline are methylxanthines; the majority of their actions at therapeutic doses are due to antagonism of the inhibitory effect of adenosine on sympathetically released noradrenalin (Williams & Jarvis, 1988). It is therefore likely that all the constituents of Do-Do tablets affect amine neurotransmitters, and this could account for the abuse potential of this particular combination.

As shown by the case reports, Do-Do tablets have a subjective amphetamine-like action and in all three cases described were used as a substitute for amphetamine. The first patient used them as self-medication to relieve social anxiety and may have experienced a drug-induced dysphoric state which resolved with drug withdrawal. In this case physical symptoms following withdrawal were mild although he did experience brief paranoid ideation. The second and third patients reported abused Do-Dos as an easy substitute for amphetamines. Two of the cases experienced withdrawal symptoms similar to those following cessation of amphetamine. In all cases the dosage consumed varied little over long periods. All three cases can be said to show mild dependence in that they showed, to varying degrees, a compulsion to take the drug, stereotyped drug-taking behaviour, and salience of drug use. One case exhibited a desire to stop the drug followed by reinstatement of excessive use after a period of abstinence.

In the USA, abuse of stimulant-containing medicines has been recognised as a major problem (Doughty, 1982; Lake & Quirk, 1984). Ephedrine has been marketed as a cocaine substitute (Siegal, 1980) and has been a constituent of 'look-alike' tablets manufactured to resemble amphetamine in appearance and effect. These 'look-alikes' or 'pseudo-speed' tablets contained various combinations of proprietary drugs such as phenylpropanolamine, ephedrine and caffeine. In the early 1980s they were reported to be the third most common drug of abuse among New York adolescents, and their manufacture to be a multi-million dollar business (Dougherty, 1982). Concern over the abuse of proprietary stimulants led the Food and Drugs Administration to introduce legislation restricting the manufacture of certain combinations of stimulant drugs (Lake & Quirk, 1984).

In the UK there are many over-the-counter preparations containing one or more compounds with stimulant properties. The extent to which these preparations are abused is uncertain. It is a problem recognised by pharmacists (Anonymous, 1987; Harrison, 1988), and anecdotal evidence suggests that it is not uncommon among illicit drug users.

While these preparations remain easily available they are likely to be abused, and not only by patients attending addiction services. Information about over-the-counter drug use should form part of every psychiatric history.

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S. LOOSMORE, MB, ChB, MRCPsych, *Consultant Psychiatrist, St David's Hospital, Carmarthen, Dyfed*;
 *D. ARMSTRONG, MB, ChB, MRCPsych, *Senior Registrar in Psychiatry, Leeds Addiction Unit, 40 Clarendon Road, Leeds*

*Correspondence

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A Psychiatric Study of Deviant Eating Behaviour among Mentally Handicapped Adults

G. O'BRIEN and A. M. WHITEHOUSE

A study of deviant eating behaviour among mentally handicapped adults in community placements is reported. Those individuals with a psychiatric disorder showed more deviant eating behaviour. Depressed subjects, in particular, showed an excess of the amount eaten and time spent searching for food, as well as the tendency to eat all sweet food presented to them. Non-food pica was uncommon, even among the autistic subjects.

Eating disorders such as anorexia and bulimia nervosa have been studied extensively in psychiatric patients and in the general population. Recent research has also found that deviant eating behaviour is common in adults with dementia (Hope *et al*, 1989; Morris *et al*, 1989). There have been few studies of eating disorder in mentally handicapped people, and these have been single case studies (e.g. Holt *et al*,

1988) or have concentrated specifically on pica, the persistent eating of non-food substances (McLoughlin, 1988). These studies suggest that pica is more common in mentally handicapped children, in those in institutional placements (McLoughlin, 1987) and in autistic subjects (Kinnell, 1985). There is also evidence that pica and associated deviant eating such as 'food pica' (McLoughlin, 1987) - that is, eating inappropriate