A solid evidence base is now established for the treatment of substance misuse and for several interventions that reduce the harm it can cause. Pharmacists’ involvement in offering both is essential

Substance misuse
harm reduction and treatment

By Jenny Scott, PhD, MRPharmS, Rhys Ponton, PhD, MRPharmS, and Janie Sheridan, PhD, FRPharmS

Effective management of substance dependence and misuse involves an array of pharmacological and non-pharmacological interventions. Pharmacists are largely involved in the provision of harm reduction interventions and pharmacological therapies. They are rarely involved with delivering other non-pharmacological interventions (eg, cognitive behavioural therapy). However, many public health experts believe that all healthcare professionals should be trained to offer simple interventions, such as signposting patients to other services, and basic levels of motivational interviewing.

Harm reduction

A range of interventions can help reduce the harmful consequences of psychoactive drug dependence and misuse, while recognising that substance misuse might continue. Such interventions can save lives as well as reduce health and social costs. They also engage drug users, who might have become marginalised from society, with healthcare providers and offer opportunities for them to be signposted to other treatment services.

Harm reduction involves changing a drug user’s injecting habits to limit the risks associated with such practice. This might initially involve encouraging the user to reduce jugular injecting. Once this has been established, the user could be persuaded to use sterile equipment every time and then be taught safe injection practices. These interventions should be made even if users are not willing to engage with treatment for their addiction.

Opioid substitution therapy can also be considered a harm reduction intervention (see “Maintenance replacement”, p353).

Needle exchange The provision of sterile injecting equipment is the main harm reduction activity that pharmacists are involved with — approximately one in five community pharmacies in England offer such a service. While recognising that injecting drug use is highly hazardous, such supply prevents the sharing of contaminated equipment.

Current best practice is outlined in the 2009 National Institute for Health and Clinical Excellence guidance.1 The recommendations relate to people over the age of 18 years who inject illicit substances and non-prescribed anabolic steroids. Three levels of service provision are advocated by NICE (see Box 1, p354). One-for-one needle exchange is not advocated and, although the return of used equipment should be encouraged by pharmacy staff, a lack of returns is not sufficient reason to refuse further supplies. At present, the breadth of needle exchange service provision is not thought to be sufficient to prevent the spread of blood-borne viruses (eg, HIV, hepatitis C) effectively.2

NICE specifies that pharmacies should provide sharps bins to injecting drug users as a means of disposing of used equipment personally. It also recommends training pharmacy staff who are involved in needle exchange — particularly to ensure users are treated with respect and offered privacy to help maintain confidentiality. NICE also highlights the need for staff to be able to signpost users to other health and social care services, and for staff to be offered hepatitis B vaccination.

Summary

Clear guidelines have been written for the management of substance dependence, backed by a solid evidence base. Pharmacists can contribute to the effective delivery of this care.

There is an increasing number of pharmacists specialising in the management of substance misuse, many of whom are prescribers. This can be a rewarding area of practice where observed outcomes can be dramatic in a short period, providing pharmacists with the opportunity to observe the benefits of their involvement.

HARM REDUCTION INTERVENTIONS SHOULD BE MADE EVEN IF USERS ARE NOT WILLING TO ENGAGE WITH TREATMENT FOR THEIR ADDICTION

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Evidence There is evidence that HIV prevalence has decreased in areas that have been quick to implement needle exchange programmes and increased in areas that have not. Two systematic reviews support the effectiveness of needle exchange in reducing HIV infection among injectors. A meta-analysis of 47 studies shows that needle exchange reduces risk-taking behaviours, including syringe-sharing. There are fewer data to confirm the impact of needle exchange on hepatitis C transmission. However, there is epidemiological evidence that the rate of new hepatitis C infections in the UK is reducing.

Pharmacological interventions Pharmacological therapy can be used to treat opioid, alcohol and benzodiazepine dependence. Although such treatment can be effective alone, it should, ideally, be used in combination with non-pharmacological interventions.

Substitution therapies include the use of methadone or buprenorphine to treat opiate addiction, diazepam to treat benzodiazepine addiction and chlor diazepoxide to treat alcohol addiction. Methadone and buprenorphine can be used as:

- Maintenance replacement therapy (this has the strongest evidence for offering sustained benefit to opioid-dependent users)
- Part of a structured detoxification regimen

Maintenance replacement Substitution treatments offer users a legal supply of a medicine that replaces the illicit drug on which they are dependent. Studies have shown maintenance therapy to reduce users’ risk of overdose, illicit drug use, blood-borne virus transmission and crime, and improve their mental and physical health.

Untreated users are over five times more likely to be infected with HIV than those who are treated, according to a US study. In the UK, it is estimated that for every £1 spent on treating drug addiction £9.50 is saved in crime and healthcare costs.

Maintenance treatment should be the initial goal for all new patients. Although the dose of substitution therapy should be titrated up according to individual need, the usual daily methadone dose once stabilised (for successful retention in treatment) is 80–120mg per day; although starting doses will be much lower. The usual dose of buprenorphine is 16–24mg per day.

Supervised consumption helps to prevent deaths associated with methadone and is likely to reduce the diversion of methadone to users not accessing treatment. It is recommended for the first three months of treatment. However, a flexible approach for offering “take home” (unsupervised) methadone consumption can help to retain patients in treatment.

Additional strategies that can improve adherence to treatment include:

- Clinicians adopting a long-term philosophy to treatment and agreeing and reviewing goals and expectations that are user-led
Although those with poor mental health, those with multiple drug addictions and those who are likely to divert their daily dose are less likely to be treated successfully, these factors should not prevent clinicians from attempting to treat such individuals.

Structured detoxification

Once opioid-dependent patients have had their illicit substance use curtailed by maintenance replacement treatment, detoxification (ie, reduction of the treatment dose to zero) would seem the logical next step. However, enforced detoxification is ineffective for sustained outcomes. It also increases the risk of users relapsing and subsequently overdosing due to a loss of tolerance to the misused drug. Mortality rates among recently detoxified patients have been shown to be higher than among untreated heroin users. However, detoxification can achieve sustained outcomes provided users are ready (ie, have achieved a stable period of abstinence) and willing (ie, not coerced). Detoxification should be approached as follows:

- Use the medicine on which the patient has been stabilised during maintenance treatment
- Agree the detoxification regimen (eg, start date, duration) with the patient
- Offer instant access back to the maintenance treatment if relapse occurs
- Offer the patient access to plenty of support services (eg, community or residential rehabilitation) during and after detoxification
- Provide written and verbal information on the risks of overdose and consider prescribing "take home" naloxone
- Offer symptomatic relief for withdrawal symptoms (eg, with lofexidine, mebeverine, ibuprofen, domperidone) if necessary

Lofexidine can benefit patients with a low or moderate level of opioid dependence by relieving noradrenaline-related symptoms of withdrawal. Several attempts might be required until full detoxification (ie, abstinence) is sustained, but care should be taken to avoid "revolving door" syndrome. Often, convincing the patient that maintenance is a better initial goal than full detoxification is challenging, since many access treatment services to achieve abstinence. In either case, the goal of therapy should be reviewed regularly.

Non-opioid dependence

Alcohol dependence is usually treated with benzodiazepines, which attenuate withdrawal symptoms by producing the same physiological effect as alcohol. This helps prevent the more serious consequences of withdrawal, such as seizures. Whereas long-term maintenance is favourable for opioid addiction, long-term treatment with benzodiazepines (for benzodiazepine or alcohol dependence) is not recommended. This is because the risks of cognitive impairment that are associated with long-term treatment, especially for doses greater than 30mg diazepam per day (or equivalent), outweigh the benefits.

Short-term detoxification is recommended for benzodiazepine and alcohol dependence. A benzodiazepine conversion chart has been provided by the Department of Health. Since withdrawal symptoms can include seizures, consideration should be given to the location at which detoxification treatment is provided. Community-based detoxification is cheaper but for those at heightened risk of adverse events (eg, those addicted to multiple drugs of misuse) hospital detoxification might be safer.

A detoxification regimen involving a short, reducing course of the appropriate benzodiazepine should be agreed with the patient before starting. As with opioid detoxification, a planned package of after-care is important and the patient should be followed up closely. There is concern that repeated alcohol detoxification might cause glutamate neurotoxicity, which can compromise brain function in the long term. This has led to reluctance from some clinicians to detoxify alcohol dependent patients repeatedly when it is unlikely to succeed.

Relapse prevention

Pharmacological treatment can help prevent relapse of opioid or alcohol dependence once abstinence is achieved. Such treatments include:
● Disulfiram (for alcohol dependence) — blocks metabolism of alcohol causing acetaldehyde to accumulate in the bloodstream. The reaction, characterised by flushing, dyspnoea, headache, palpitations, tachycardia, hypotension, nausea and vomiting, occurs within 10 minutes of ingesting alcohol and lasts several hours
● Acamprosate (alcohol) — thought to stimulate GABAergic inhibitory neurotransmission and antagonise excitatory amino acids (eg, glutamate), which reduces withdrawal symptoms
● Naltrexone (opioid) — specific, high-affinity, long-acting, competitive antagonist of opioid receptors, has also been shown to prevent relapse of alcohol dependence (unlicensed indication in the UK)

It should be noted that all of these preventive therapies require the patient to be highly motivated to sustain abstinence and to maintain compliance.

**Non-pharmacological interventions**

Non-pharmacological therapies encompass a range of interventions intended to motivate change in signpost patients to self-help groups and other healthcare services (eg, vaccinations). Support for families and carers is also important.

Structured psychotherapies, such as cognitive behavioural therapy (CBT), can help patients with co-existing mental health problems such as anxiety and depression. The purpose of CBT is to examine current thoughts and feelings and determine how these influence behaviour. It tends not to “rake up” the past too much, but concentrates on the “here and now”. CBT can be delivered through a short course of one-to-one sessions, group sessions or a computer program. It tends not to “rake up” the past too much, but concentrates on the “here and now”.

CBT can be delivered through a short course of one-to-one sessions, group sessions or a computer program. It aims to influence the behavioural response to thoughts and feelings and develop alternative coping strategies to situations that would normally trigger drug-seeking behaviours. Unfortunately, psychotherapies such as CBT cannot be offered to all substance-dependent people because of a shortage of trained therapists (and the evidence for computer-based CBT is not established for drug misusers).

Non-pharmacological interventions can be used as an adjunct to pharmacotherapy (eg, to treat opioid or alcohol addiction) or can form the mainstay of treatment (eg, for cocaine, cannabis, amphetamine or ketamine addiction).

More information on these interventions has been prepared by the Department of Health and NICE.

References

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