Towards Prescribing Practice

Edited by John McKinnon

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"To my loved ones, loyal friends and colleagues. They know who they are."

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Finally I would like to thank my wife Tina for all her patience and support.

Contents

UNINTENTIONAL MISUSE

Often drug misuse is the product of poor consultation or a lack of education. For example, people who seek to procure laxatives suffer from constipation often because they have insufficient levels of fibre and fluid in their diet and/or because they do not take enough exercise. Such patients may not consider their practices as a misuse but as a logical step in self-medication.

'WEEKEND' DRUG ABUSE

The party and clubbing culture of recent years has created a new market for synthetic stimulants that produce fast, euphoric effects (McCambridge et al., 2005). They are all class A drugs and as such are illegal substances.

Liquid Ecstasy

Gammahydroxybutyrate, better known by its street names 'liquid ecstasy', GBH and GHB, is an anaesthetic and a class A drug with narrow distribution margins between energetic euphoria, sedation and coma. Used therapeutically in North America in the early 1990s, it was quickly withdrawn following a series of adverse reactions and dosage problems. GHB has been used illicitly alone, but can be reinforced using benzodiazepines or alcohol. Once ingested it has an average absorption time of ten minutes and a half life of two hours. Headache, nausea, vomiting, hallucinations, loss of peripheral vision, hypoventilation, cardiac arrhythmias, seizures, short-term coma and on rare occasions death are all documented side effects (Timby et al., 2000).

Ecstasy

The street name 'ecstasy' is shared with other substances: 3,4-methylene-dioxy-methamphetamine (MDMA), also known as 'Adam', 3,4-methylenedioxy-ethylamphetamine (MDEA), also known as 'Eve', and N-methyl-1-(3,4-methylene-dioxyphenyl)-2-butanamine (MBDB), also known as 'Methyl-J' or 'Eden'. There are also many unregulated variations. Drugs in this group are believed to be the illegal substances most commonly taken in Britain after cannabis and cocaine (Home Office, 2005). These 'designer' drugs stimulate the dopamine and serotonin receptors to produce an accelerated euphoric feeling. Memory problems, depression, restlessness and confusion are common experiences for days after consumption (Smith et al., 2002).

Ketamine

Ketamine hydrochloride (street names include 'angel dust', 'special K', 'Kit Kat' and 'Ket') is an anaesthetic used in humans and animals. It has also been a recreational drug since the 1960s and is taken intramuscularly, intravenously, orally,

nasally and rectally, with a half life of 2.5 hours. Given parenterally it has an onset of five minutes, ten to twenty minutes when taken orally, depending on the last time food was consumed, and five to ten minutes when administered rectally or nasally. Its powerful anaesthetic properties mean that users have suffered serious injury without being immediately aware. Side effects include loss of motor control, temporary memory loss, numbness, drowsiness and nausea, along with 'out-of-body' and 'near-death experiences' (Dotson et al., 1995; Curran and Morgan, 2000).

Anaesthetic properties and the generated feelings of intimacy and enhanced libido also make both GHB and ketamine commonly used 'date rape' drugs.

'Weekend' Drugs and Public Health

Individuals who are known to take recreational drugs as part of the clubbing culture should be warned to refrain from driving, to remain among trusted others, not to dance incessantly but to rest intermittently in a well-ventilated area, to wear light clothing and to refrain from wearing head gear in order to avoid overheating. They should also avoid alcohol and drink approximately 500ml of water per hour when dancing. In addition, it is best to rest the following day. To facilitate this reputable clubs supply 'chill-out' rooms and water dispensers (Smith et al., 2002).

CRACK COCAINE

Cocaine is a derivative of the South American coca plant, which was used by the ancient Inca peoples in a variety of religious and hedonistic rituals. When inhaled or injected, cocaine blocks the uptake of dopamine in the midbrain, creating a state of euphoria (Mash and Staley, 1999). It presents as a white, bitter-tasting powder, but since the 1990s it has become popular to concentrate cocaine by heating the drug in a solution of ammonia or baking soda until the water evaporates. The end product of this is crack cocaine, so called because of the cracking sound produced by the heating process. Crack has the appearance of small crystal rocks and can be snorted. The effects are virtually instantaneous but last for about ten minutes. The substance has a wide variety of street names, including badrock, devil drug, french fries, grit, hotcakes, nuggets, prime time, rocks, scrabble, snow coke and sleet, to name only a few.

Crack use has been linked to pulmonary, cardiovascular and circulatory disease in addition to mood swings, anxiety, paranoia and aggression, together with cognitive difficulties (Hatsukami and Fischman, 1996; Constable, 2002). The British Crime Survey (Home Office, 2005) indicated that trends in the illicit use of cocaine showed a marked increase between 1998 and 2000. It remains the most commonly abused class A drug in Britain.

THE LAW AND DRUG ABUSE/MISUSE

Legislation is in place to regulate the import, production and supply of drugs, making them available for therapeutic use through prescription, but restricting their distribution where there is concern about the impact of abuse on individual and public health. There is currently grave concern that inappropriate sale and purchase of drugs over the Internet is bypassing this legislation.

Table 4.3 outlines drug classification under the 1971 Misuse of Drugs Act.

The Advisory Council on the Misuse of Drugs (ACMD), established under the 1971 Act, has a membership appointed by the Secretary of State for Health and representatives of the main prescribing professions, the pharmaceutical industry and other persons from a variety of backgrounds deemed to be able to advise on the social problems connected with drug abuse.

The Council has a duty to report to the Home Secretary, the Secretary of State for Health and the Secretary of State for Education and has a wide range of responsibilities as an adviser. These include measures to prevent the misuse of drugs and health promotion relating to the dangers of substance abuse, levels of restriction on the supply and availability of drugs and the supervision of arrangements for supply. The recent reclassification of cannabis was an example of this (Home Office, 2002). The ACMD also promotes collaboration between professional and community services to enable anyone affected by the misuse of drugs to access treatment and support. It also plays a part in promoting research into misuse prevention.

A person is regarded as being addicted to a drug if they have as a result of repeated administration become chemically dependent and harbour a singular desire

Table 4.3 Misuse of Drugs Act 1971 classification

Class A
Cocaine
Diamorphine (Heroin)
Opium
Dextro lysergic acid diethylamide tartrate (LSD)
Class B compounds formulated for injection
Class B
Oral amphetamines
Barbiturates
Codeine
Ethylmorphine
Phenmetrazine
Pentacozine
Class C
Cannabis (originally class B)
Anabolic steroids
Benzodiazepines
Gonadotrophin

for administration to continue. Downie et al. (2000: 243) suggest that there are six chief ways in which addictive drug-seeking behaviour may present:

- Implying that the only possible solution to a medical problem is a prescription for a controlled (addictive) medication.
- Describing symptoms that markedly deviate from objective evidence or the physical examination findings.
- Claiming that non-addictive medications 'don't work' or cannot be taken because of an allergy to them, that the person has a high tolerance to drugs, that they have lost a prescription or that they have run out early.
- Manipulating the situation by pitting the opinion of one doctor on treatment against that of another. For example, threatening to get the requested drug from a 'smarter' or 'more caring' doctor.
- Resisting non-pharmacological treatment recommendations, such as behavioural training or psychotherapy.
- Offering bribes or sex, or even making threats of harm to person or property. Patients may often sell or forge prescriptions.

The Home Office maintains an index of addicts that doctors may consult in confidence. Practitioners are required to notify the Home Office annually of patients' attendance for treatment.

Professional diligence is important to prevent addicts from abusing a prescribing facility; but equally, expert help should be made available to help them overcome their addiction. The work of the Maudsley Hospital Group (Marsden, 1994; Marsden et al., 1998) has been influential in shaping the treatment and rehabilitation of substance addicts by identifying the multifactorial nature of the causal roots of substance abuse and the key support factors, such as personal support, housing and employment, that build resilience and sustain recovery. Here, as in many other areas of healthcare, positive outcomes have been more common when peer support is involved, particularly when young people have been the recipients of care (Black et al., 1998).

Stuart Kennedy discusses therapeutic approaches to substance abuse in Chapter 10.

PREVENTING IATROGENESIS

Iatrogenesis as it relates to adverse drug events is a negative impact on a patient's health status as a result of prescribing, preparation, dispensing and administration of medicines. It has been estimated that drug errors constitute the single largest source of iatrogenic incidents, at 11% (Leape et al., 1995). There is a well-established evidence base (Reason, 1990; Kohn et al., 1999) to show that in the absence of proven malicious intent, a punitive approach to drug errors is ineffective and at times counter-productive to risk management in therapeutics. Modern responses

to reducing drug errors recognise the complex, fast-paced world in which practitioners and patients interact. Optimum competence in numeracy alone is insufficient protection against errors in such an environment, in which healthcare professionals are frequently required to multitask. Drugs that are pre-packaged in pharmacies for administration are becoming commonplace, as is the use of the patient's own drugs in formal care settings and drug dispensers that can be used in patients' own homes. These measures help ensure that the volume and rate of patient care required of care givers is less likely to be related to the amount of drug errors (National Prescribing Centre and National Primary Care Research and Development Centre, 2002).

GOOD HISTORY TAKING

Good history taking is the primary weapon of prevention against adverse drug events. It helps assemble a patient portfolio of past allergies and reactions and present medication, to include over-the-counter, general sales list, alternative treatments and non-therapeutic as well as prescribed drugs. The more detailed the history, the better the assessment of risk that is facilitated (National Prescribing Centre, 1999). Vulnerable groups such as the elderly, children and those who have multiple disease states or are immunosuppressed deserve special attention (National Prescribing Centre, 1999; Walker and Edwards, 2003; Curtis et al., 2004).

SHARING BEST PRACTICE

Responsibility for continuous professional development, which is shared by healthcare practitioners and employers, also contributes to drug administration safety (Nursing and Midwifery Council, 2002). The use of significant event audit is now part of established good practice and serves to produce a common team learning process out of an individual error, rather than to apportion blame. Learning that arises out of good practice is also shared. Clinical care pathways and information systems such as PRODIGY help ensure that evidence-based practice guides and informs prescribing behaviour and provides maps for planning therapeutic intervention (National Prescribing Centre and National Primary Care Research and Development Centre, 2002).

REPORTING UNANTICIPATED DEVIATIONS FROM THE NORM

Most pre-marketing drug trials are carried out on sample populations with single-pathology illness states and therefore are unlikely to detect many potential adverse reactions. The role of post-marketing prospective and retrospective research studies in predicting adverse drug event potential cannot therefore be understated. The association identified between Reye's syndrome and the use of aspirin in adolescents and children (McGovern et al., 2001; Committee for Safe Medicines, 2002) is an example of this.

In 2002, in what many believe to be a long-overdue legislative amendment, nurses joined doctors, pharmacists and dentists as an identified group authorised to

use the yellow card system to report adverse reactions to the Committee for Safe Medicines (CSM) and the Medicines and Healthcare Products Regulatory Agency (MHRA) (Callaghan, 2003). The yellow card reporting system is the point at which proactive and reactive medicines management meet. The reporting practitioner reacts in response to an undesirable clinical response to a prescribed treatment, but collation of such reports by the CSM and MHRA means that awareness and pharmacovigilance are increased among other prescribers and patient safety benefits accordingly. Case reports such as the one by Schatz et al. (1989) also inform other prescribers of dangers that may hitherto have been unknown in the prescribing community.

OPTIMUM TEAM WORKING

Electronic patient-centred records help enhance shared record systems, in that any singular update simultaneously informs a whole team of professionals who may be delivering care and prescribing treatment for the same patient. The consequent reduction in delay of shared knowledge within a team means that the potential for adverse drug events is also reduced (National Prescribing Centre and National Primary Care Research and Development Centre, 2002).

The role of the pharmacist in relation to the prevention of adverse drug events is a multifaceted one: an expert therapeutic consultant for all prescribers, a patient and practitioner educator, a prescriber, dispenser and supplier. The time period that lies between the acts of prescribing and dispensing may prove to be a period of reflection for the patient (McKinnon, 2004). The dispensing episode provides an opportunity for pharmacists to reinforce prescribing advice and clarify any misunderstandings. The same applies to the supply of general sales list medicines (Walker and Edwards, 2003). Supplementary prescribing affords an opportunity for a higher standard of patient medication portfolio review and safer controls on repeat prescribing (National Prescribing Centre and National Primary Care Research and Development Centre, 2002).

PATIENT INVOLVEMENT, EDUCATION AND CONCORDANCE

Research suggests that it is not merely the lack of patient education about prescribed treatment but the lack of sensitivity as to the timeliness of such education, along with failure to genuinely engage the patient's concerns, that results in a breakdown in concordance and consequent adverse drug events (Jacobs, 2002). Educating patients about their medication and treatment, therefore, cannot be merely the depersonalised transfer of information, but like all good teaching is couched in an awareness of the link between meeting learner needs and assimilation of new knowledge. However, in our efforts to secure safer medicines management, there may still be an even better way forward.

Public health initiatives are always more effective when appropriated by the public and when strengths of leadership and support grounded in the community are

harnessed (Laverack, 2005). Practitioners have long recognised that many patients who suffer from chronic disease have through experience developed expertise and skill relating to their condition that can be shared with others. Formalising this concept of the expert patient (Department of Health, 2001), through the development of support and education programmes that are led by service users, has been linked to improved concordance. Such measures do more than confirm patients as partners in treatment. By nurturing patient leadership in therapeutics, we develop patient responsibility to new levels and take another step towards minimising adverse drug events.

THE PUBLIC HEALTH DIMENSION OF PRESCRIBING

GETTING PRESCRIBING IN CONTEXT

A public health model of prescribing practice does not conform to the traditional biomedical model of care that has until recent times dominated the prescribing franchise. Preventive public health medicine is an expanding science. Therapeutic management of cholesterol and obesity in the absence of specific disease states has joined immunisation in the area of primary public health medicine and produced beneficial results, but this is not primary prevention within a social model of care.

To prescribe in a context of public health is to own a public health philosophy in practice, appreciating the broader health consequences for the individual and the community of treatment options and care packages. The practitioner minded by a public health philosophy recognises the contribution made by therapeutics to health to be small in comparison to that of social, practical and environmental measures.

Both prescribing and non-prescribing behaviour should afford an opportunity for patients to explore ways in which they might be enabled to change their lifestyle for the better. Practical self-help, physical exercise (Hillsdon et al., 2004), a change of diet, recreation or social behaviour (Mulvihill and Quigley, 2003) and personal support to stop smoking (Naidoo at al., 2004) all provide solutions that are alternative or complementary to a prescription.

ENHANCING CARE THROUGH COLLABORATION

Health advice falls within a wider area of health promotion that can best be accomplished through collaborative working with a wide range of health and social care professionals, voluntary groups, community leaders and service users. The realisation that one cannot do everything oneself and the awareness of informed others who can play a valuable part in helping communities to help themselves are the beginnings of effective public health practice (Gillies, 1997). Service user partnerships

result in initiatives such as food cooperatives established in food deserts[1] and after-school clubs, which embody health needs as they are expressed by the grass-roots community.

Prescribing in the public health context therefore means that while practitioners in primary and secondary care may not play a part in every health-promotion activity in the community, they are aware of all of them and are able to refer patients appropriately.

ALLOWING NEED TO SHAPE PRACTICE

The importance of healthcare practice located at times and places where people require it rather than the other way around has been recognised by a number of studies commissioned by government (Acheson, 1998; Department of Health, 2004). Public health prescribers profile the community in which they practise. Doing so means that they are able to tailor and target resources that are as accessible as they are effective. For example, clinics, surgeries and medical centres with flexible evening, early-morning and weekend opening times, walk-in centres, telephone and Internet services all help address the opportunistic access needs of people with complex life and work patterns. Outreach projects in schools, and mobile units for travelling families and geographically isolated groups, are advanced versions of the same approach. Ideally, the shape such services take will be as diverse as the populations they serve.

Systems need to be in place that facilitate audit of public health practice. This means more than monitoring prescribing patterns, but conducting an analysis of how these patterns sit with other aspects of care and treatment and whether they are meeting the most pressing health needs.

In particular, service-user-friendly explanations of the dangers for a community without herd immunity and the threat to health of inappropriate antimicrobial prescribing should be included in respective consultations about vaccines and antimicrobials in order to aid concordance and promote public health (Department of Health, 2000).

The prescriber who is also socially and politically aware will help promote justice in healthcare by practice that is non-discriminatory. Awareness of the inequalities in health means that prescribing practitioners realise the lack of room for manoeuvre endured by lower socioeconomic groups. Prescribing and non-prescribing behaviour for these groups includes provision of free prescriptions and, where this is not possible, negotiation with the patient over the use of products they may already have in the home or may obtain cheaply over the counter. Any attempt to guide the patient towards life-style change must be characterised by empathic engagement rather than paternalistic judgement, offering a range of options and support.

Equal access to healthcare by ethnic groups is promoted by the employment of practitioners who are members of these groups, along with interpreters and signers

[1]A food desert is the sociological term for a residential area where fresh produce outlets are either non-existent, or so expensive as to be beyond the means of the residents for the purposes of regular use.