Drink, Drugs and Dependence

The benefits of effective co-operation and the range of disciplines that have contributed to this publication are impressive. It combines the scientific with the practical and presents issues clearly in context and will, I am sure, prove a valuable resource to many.

Keith Hellawell

At a worldwide level, addiction and the fallout from substance use is affecting more and more lives. Professionals are increasingly being confronted with puzzling, multifaceted aspects of substance use, whether they work in the clinic, the laboratory or the community.

If you are a member of any caring profession, sooner or later you will encounter problems caused by drugs, alcohol and tobacco. In order to understand substance abuse and substance abusers, no single discipline can provide all the answers. In a novel way, this book integrates biological science, social science and clinical experience. It draws together contributions from experts in these diverse and rapidly growing fields, providing the reader with a deeper capacity to engage problems effectively.

D*rink, Drugs and Dependence* includes thought-provoking examples, illustrations and test questions to support problem-based learning. Designed to be read consecutively or as a reference text, it will be a welcome resource for all those working in the field of addiction.

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Drink, Drugs and Dependence

From science to clinical practice

Edited by Woody Caan and
Jackie de Belleroche

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Foreword

I was delighted to accept the invitation to provide a foreword for this publication which is targeted at professionals first encountering individuals with drug and alcohol related problems.

The government's anti-drug strategy, set out in *Tackling Drugs to Build a Better Britain,* seeks to shift the emphasis away from dealing with the consequences of drug misuse to preventing them happening in the first place. Education has a key role to play, as does ensuring that those who develop drug problems can access good, effective treatment programmes. To help realize our goals, significant additional resources have been made available but equally important government departments, agencies and others in the field are working closely together towards common targets.

The editors of this publication have also recognized the benefits of effective co-operation, and the range of disciplines that have contributed to this publication is impressive. It combines the scientific with the practical and presents issues clearly in context and will, I am sure, prove a valuable resource to many.

Only by working effectively together can we achieve our aim of reducing the harm and damage that drugs and alcohol cause to individuals and society.

Keith Hellawell
The UK Anti-drugs Co-ordinator

Preface

The misuse of alcohol and drugs is a major inescapable feature of our society. However, the majority of cases or types of problem go untreated and it is only recently that substance abuse has been recognized as a serious health problem. A measure of the extent of the problem is indicated by the estimated 4 per cent of consumer spending on alcohol and drugs. In the UK, this is approximately £12 billion on alcohol and £10 billion (ten billion pounds sterling) on illegal drugs. Drug use is an international issue affecting all age groups. Increasingly, people are being damaged by substance misuse and every caring profession has to address the problem of drug and alcohol use amongst clients, even if these clients are schoolchildren or pensioners.

Enormous social changes are evolving as seen in the decreased average age of first experimentation in substance misuse from late teens a couple of decades ago to pre—or early teens (11–15 years) in the late 1990s. The range of substances widely available has also expanded greatly over this period from cannabis, amphetamine and LSD to crack cocaine, solvents, ecstasy and its variants. Hand in hand with the expansion in illegal drug availability has come the development of ruthless marketing strategies which introduce new drugs initially very cheaply to ensnare clients.

A number of clinical, scientific and sociological skills need to be drawn on to address the problems of substance misuse. No one discipline has all the answers to understanding or managing this expanding problem. In fact, it is essential to build up a complete picture of substance misuse from the nature of the chemicals being used to their effects on the individual, the family and society as a whole.

The aim of this book is to guide the reader through the nature of drink and drug problems, especially dependence, using a broad perspective: from the basic brain mechanisms to the physical, psychological, sociological and practical issues. We aim to provide an understanding of the whole system in order to prepare anyone in the caring professions for their encounter with chemical dependence and also to provide the basis for responding in the future to inevitable changes in drug taking that will occur. The book starts with an introduction to broad issues relating to population health and policy. We then describe familiar legal substances such as alcohol and tobacco covering the genetic, cellular and psychological effects on the individual and the wider community. We then move on to cover illegal drugs, the problems encountered after short-term use and the effects of dependence. The different approaches to treatment are developed to provide a rationale for their use rather than a recipe. Finally, we scan the horizon for future developments to prepare the reader for rapid changes that occur without warning. These may be novel chemicals or could be old drugs in an unfamiliar setting such as the recent emergence of injectable steroids being encountered in the ‘clubbing scene’ or the marketing of alcoholic beverages for a young age group. We have tried to harmonize the

chapters of the book into a similar format with key point summaries. However, each chapter can be read on its own, it is up to the reader to customize their own requirements.

Abbreviations

AA	Alcoholics Anonymous
ACMD	Advisory Council on the Misuse of Drugs
ADH	Alcohol dehydrogenase
AHMD	Alcoholic Heart Muscle Disease
ALDH2	A mitochondrial isoenzyme of aldehyde dehydrogenase
AMPA	α-amino-3-hydroxyl-5-methyl-4-isoxazole proprionate
ANSA	Association of Nurses in Substance Abuse Services
ARVAC	Association for Research in the Voluntary and Community Sector
AUDIT	An alcohol screening test
BAC	Blood Alcohol Concentration
BMAST	An alcohol screening test
BPDE	Benzo(a)pyrene Diol
CAGE	Cut, Annoyed, Guilty, Eye-opener
CAOT	Canadian Model of Occupational Performance
CART	Cocaine—and Amphetamine-Related Transcript
CBT	Cognitive Behavioural Therapy
COPD	Chronic Obstructive Pulmonary Disease
CR	Conditioned Response
CYP	Cytochrome P450
DARE	Drug Abuse Resistance Education
DAT	Drug Action Team
DIVC	Disseminated Intravascular Coagulation
DRIE	Drinking-Related Locus of Control Scale
DSH	Deliberate Self-harm
DSM	Diagnostic and Statistical Manual
DZ	Dizygotic
EAP	Employee Assistance Programme
EDM	Ego-defence Mechanisms
FAE	Foetal Alcohol Effects
FAS	Foetal Alcohol Syndrome

GABA	Gamma-aminobutyric acid
GC-MS	Gas Chromatography-Mass Spectrometry
GBH	Grievous Bodily Harm
GHB	γ-Hydroxybutyrate
GP	General medical practitioner, in primary care
GST	Glutathione-S-transferase
HALT	Hungry, Angry, Lonely or Tired
HDA	Health Development Agency
HDL2	High Density Lipoprotein type 2
5-HT	5-Hydroxytryptamine
IBC	A health publisher and conference organizer
ICD	International Classification of Diseases
IL-8	Interleukin-8
ISDD	Institute for the Study of Drug Dependence (now called DrugScope)
LSD	Lysergic Acid Diethylamide
MAP	Mandsley Addiction Profile
MBDB	Methylbenzodioxolybutanamine
MDA	Methylenedioxyamphetamine
MDEA	Methylenedioxyethylamphetamine
MDMA	Methylenedioxymethamphetamine
MPTP	1-Methyl-4-phenyl-1,2,3,6-tetrahydropyridine
MRC	Medical Research Council
MRI	Magnetic Resonance Imaging
MUDA	The Misuse of Drugs Act
MZ	Monozygotic
NA	Narcotics Anonymous
NFER	National Foundation for Educational Research
NIAAA	National Institute on Alcoholism and Alcohol Abuse
NMDA	N-Methyl-D-aspartate
NNK	N-Nitrosamino Ketone
NNN	Nitrosonornicotine
NRT	Nicotine Replacement Therapy
NTORS	National Treatment Outcome Research Study
ONS	Office for National Statistics
OPCS	Office of Population Censuses and Surveys (now called ONS)

PAH	Polycyclic Aryl Hydrocarbon
PAT	Paddington Alcohol Test
PET	Positron emission tomography
PMA	Paramethoxyamphetamine
PMN	Polymorphonuclear Neutrophil
RAPS	An alcohol screening test
RPM	Relapse Prevention Matrix
SANE	Substance Abuse a National Emergency (US)
SCODA	Standing Conference on Drug Abuse (now called DrugScope)
SERT	Serotonin Transporter
SLPI	Secretory Leukoprotease Inhibitor
SSRI	Selective Serotonin Re-uptake Inhibitor
TACADE	A drugs charity focusing on support for teachers and schools
THC	Tetrahydocannabinol
TWEAK	An alcohol screening test
UMDS	United Medical and Dental Schools
WHO	World Health Organization

Chapter 1
What is a drug and what is addiction?

John Shanks

Key points

- *For both alcohol and illicit drugs, the patterns of use and the patterns of harm can be related across a defined population.*
- *Careful use of terminology helps to clarify this relationship.*
- *Good-quality epidemiological information about the patterns of drug use and the resultant drug problems can contribute significantly to designing better health policies.*

Introduction

Many societies have a chosen drug or chemical whose use is incorporated in social rituals, such as coming of age, marriage and other rites of passage. In Europe and North America, alcohol fulfils some of these functions for most members of the population. In other cultures, different drugs, such as opium or cannabis, are the socially sanctioned choice.

The use and misuse of alcohol and drugs affects everyone in our society, even those people who do not themselves consume these substances. The alcohol industry is a huge business that provides employment for those involved in agriculture, manufacturing, distribution and serving of alcoholic beverages. In the UK, we spent over £25 billion buying alcoholic drinks in 1994 and about £180 million advertising them. Revenue from taxes on alcohol raised more than £9 billion for the Exchequer. During 1993–94, the UK government spent at least £526 million on tackling drug misuse: about £350 million of this went on law enforcement while about £165 million was spent on education, prevention and treatment. The economic costs of illicit drug consumption have risen rapidly, with over 2 per cent of total consumer spending in the UK (£10 billion: Butler 1998) expended on drugs. The health problems and crime associated with the misuse of alcohol and drugs impose a heavy burden on individuals, families, communities, law enforcement agencies, health and social services; for example, in France the recent report of Pierre Kopp for the Office of Drugs found 2.68 per cent of the gross national product (over £21 billion annually) was spent on social problems caused by alcohol and tobacco

(summarized in Webster 1999).

Terminology

Discussion or reading about alcohol and drug use is complicated by the use of terms such as addiction, dependency, abuse and misuse which are often left undefined and which can be employed with differing and overlapping shades of meaning.

Terms in common use:

- misuse
- abuse
- dependency
- addiction
- problem use
- alcoholism

Among drug users themselves, there is a highly local and frequently changing street language to describe specific drugs and methods of taking them. Unfortunately, there is no universally accepted set of terms or definitions but the terminology proposed by the World Health Organization has achieved fairly wide acceptance in official circles.

What is a drug?

A simple definition of a drug would be any substance that alters the functioning of the body or the mind. This definition of a drug would include alcohol and also substances such as tobacco or caffeine. For the purposes of this chapter, we will exclude tobacco and caffeine from further consideration because of their different status in our society. For similar reasons, we will consider alcohol separately from other drugs. The generic term ‘substance’ is often used to include both alcohol and drugs.

What is addiction?

The term ‘addiction’ is often used interchangeably with related terms such as ‘dependence’, ‘abuse’, ‘misuse’ or ‘problem use’. All these terms can be applied equally to drugs or to alcohol, which has, additionally, its own specific term ‘alcoholism’. The World Health Organization in its disease classification schemes has proposed some distinct categories, which may be useful.

Drug abuse

Persistent or sporadic excessive use of a drug inconsistent with, or unrelated to, medical practice.

Drug dependence

A psychic and sometimes physical state, resulting from taking a drug, characterized by behavioural and other responses that always include a compulsion to take the drug on a continuous or periodic basis in order to experience its psychic effects and sometimes to avoid the discomfort of its absence. This rather unwieldy definition of drug dependence introduces the notion of withdrawal effects resulting from withholding the accustomed drug and implies that the state of drug dependence can be either psychological or physical or both.

Definitions of terms such as these may not be adequate to decide in any particular instance whether an individual can be regarded as having a significant problem with drug or alcohol use. There are, therefore, a range of operational definitions which allow people to be more precisely categorized on the basis of some quantified measure of drug or alcohol use which is then compared with a threshold level agreed to constitute problem use. Population surveys of alcohol consumption, for example, may count the numbers of people who report drinking at levels above the current upper limits of sensible consumption recommended by the UK's medical royal colleges (21 units per week for men, 14 units per week for women). There are also a variety of standardized questionnaires, which produce a score based on the presence of identifiable characteristics thought to be associated with definite alcohol or drug misuse. The CAGE questionnaire is one such short questionnaire, which enquires about four characteristics that are judged to occur in moderately severe problem drinking. A positive response to two or more of the four questions is often taken to indicate a likely severe drinking problem.

The CAGE questionnaire for identifying alcohol problems:

1 Have you ever felt you should Cut down on your drinking?
2 Have people Annoyed you by criticising your drinking?
3 Have you ever felt bad or Guilty about your drinking?
4 Have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover (an 'Eye-opener')?

The experiences of people addicted to drugs or alcohol, to the extent of suffering physical withdrawal symptoms when they cannot get the next dose of their chosen substance, may seem very unfamiliar to the majority of people who never develop such a problem with use of either substance. But a degree of dependence on something is almost universal. It

may be another person or a pleasant experience rather than a drug, which induces the intense anticipation of repetition and a mixture of psychological and physical symptoms of distress when the object of desire is unavailable.

Epidemiology

We can consider the impact of alcohol and drugs either at the level of the individual or the population to which that individual belongs. The epidemiological approach considers the distribution of patterns of drug use and their consequences in a population. It is useful to distinguish between

- *epidemiology of use:* how patterns of drug or alcohol consumption are distributed through populations;
- *epidemiology of harm:* how problems related to drug or alcohol use are distributed through populations

Alcohol

Epidemiology of use

Information about people's drinking habits comes from a range of sources, including surveys which ask people to remember how much alcohol they have consumed over a defined period of time, such as the preceding week, from official statistics produced by Customs and Excise and based on the amount of alcohol on which duty has been paid. Neither of these can be entirely accurate: people may be reluctant to admit or unable to remember just how much they really drink, while Customs and Excise returns do not include alcohol which is smuggled in, bought duty free or produced at home. It is possible to test for underestimation in self-reported surveys by comparing the consumption of alcohol per head of population predicted from the admitted drinking of the surveyed sample with the per capita consumption derived from Customs and Excise returns for the same period. The Office of Population Censuses and Surveys carried out in 1987 a national survey of drinking habits in England and Wales. This survey estimated that the average annual per capita consumption of pure alcohol was 4.2 litres. Customs and Excise returns for the same year give an average figure of 7.4 litres per year. The reasons for this discrepancy are a tendency for people, especially heavy drinkers, to underestimate their own consumption and for a lower rate of response to surveys from heavy and problem drinkers. Interestingly, people seem to give a more accurate response to questions about drinking habits when a doctor or other health professional is enquiring as part of a clinical consultation. This greater accuracy in the clinical setting may indicate that people perceive it as being more in their own interests to be honest with their doctor than in a population survey where there is no personal gain for the respondent from admitting the true extent of their drinking.

Overall levels of alcohol consumption can be expressed as weight or volume of pure alcohol but are now often described in 'units' of alcohol, since this is a more convenient measure for people to understand and use in everyday life. One 'unit' of alcohol corresponds to 9 grams of pure ethanol. More importantly, a unit matches fairly closely the standard measures in which alcoholic drinks are sold in pubs and bars. So, a unit of alcohol is equivalent to half a pint of normal strength beer, a single measure of spirits or a glass of wine.

A unit of alcohol (equivalent to 10ml [9 grams] of pure alcohol) is contained in:

- half a pint of beer of normal strength (4 per cent)
- one standard pub measure (one-sixth of a gill) of spirits
- one glass of wine (125 ml)

Data from a number of such population surveys suggest that, in the UK, the vast majority of adults drink alcohol at least occasionally. Only about 5 per cent of men and 8 per cent of women describe themselves as tee-totallers. This average figure conceals a great deal of variation between men and women, different age groups and different communities. Men and women in the 18–24 age group tend to have the highest consumption levels, declining progressively to those in the 65+age group who have the lowest levels of consumption. Older adults are less likely to be drinkers and there are a number of ethnic and religious groups who maintain a tradition of abstinence. Men usually drink more than women, but there is evidence from recent surveys that the drinking habits of younger women are becoming more similar to those of men.

How much alcohol we drink overall, and in what form, varies between one country and another and across time within each country. Britain has a relatively low level of alcohol consumption compared with most European countries. Historically, average levels of alcohol consumption were high in the eighteenth century and dropped to very low levels during World War II and the 1950s. Since then, consumption has risen quite a bit and we are now drinking about as much as at the beginning of the twentieth century. Economic and social factors play an important part in determining these trends; the high consumption of beer in the eighteenth century was partly enforced by the difficulty of obtaining a supply of clean water fit for drinking. The low levels of consumption in the early part of the twentieth century were largely the result of wartime rationing and a severe economic recession during the 1930s. The Family Spending survey of 1998 showed that spending on alcohol has risen by 40 per cent in real terms over the last 30 years in Britain. This increase has not been evenly distributed across British society: the biggest rise occurred in the poorest fifth of the population, where alcohol spending went up by 80 per cent.

Britain is still predominantly a beer-drinking culture, although the popularity of wine has increased greatly in recent years. This pattern of preference is similar to countries such as Denmark, Germany and Ireland. It contrasts with countries such as France, Italy

and Spain, where wine has always been the preferred beverage, and another group of countries such as Poland and Sweden, where spirits are the most popular choice for drinkers.

The pattern of drinking varies between countries as well. Britain shares with Scandinavian countries a pattern of alcohol consumption which has sometimes been described as episodic or binge drinking. People will often go for several days without drinking at all but will then drink a relatively large amount in a single session (e.g. at the weekend). This contrasts with wine-drinking countries, where there is a pattern of steady drinking spread more evenly throughout the week. People may have a small amount to drink with each meal but will not usually consume a large amount in a single session. One very obvious implication of these differences is in the amount of drunkenness. Episodic or binge drinking is more likely to lead to intoxication and drunken behaviour.

How much should we drink?

Current recommendations mostly concentrate on defining what is a sensible upper limit. The UK's medical royal colleges recommend an upper limit of sensible consumption of 21 units per week for men and 14 units per week for women. More recently, the UK Department of Health produced a higher figure of up to 28 units per week for men or up to 21 units per week for women. The fact that recommended levels for women are less reflects both their lower average body weight and their lower proportion of body water compared with men. These upper limits of sensible consumption are somewhat arbitrary since there is no clear threshold level below which drinking is always harm-free and above which it is always harmful. Currently, there is still some controversy over whether there should be a minimum recommended level. In other words, should people be advised to drink some alcohol on health grounds? There is mounting evidence that people who drink no alcohol at all suffer higher rates of heart disease than those who drink a little. This phenomenon has sometimes been referred to as 'the J-shaped curve' or the 'U-shaped curve' because the graph plotting death rate against alcohol consumption shows that both teetotallers and heavy drinkers have higher death rates, particularly from heart disease, than those who drink a little alcohol. We should be cautious about recommending alcohol on health grounds, however, since there is evidence from other countries, which have tried this strategy, that it can lead those who are already drinking too much to drink even more and can cancel out the theoretical benefits from reduced rates of heart disease by increasing the risk of other types of alcohol-related harm, such as accidents.

Epidemiology of harm

Alcohol misuse is associated with an increased risk of a wide range of different problems. It is estimated that alcohol misuse contributes to about 30,000 deaths per year in the UK. Currently in Britain, about 28 per cent of men and about 11 per cent of women are drinking above the recommended levels of sensible consumption. In a recent survey, 54 per cent of men and 28 per cent of women reported experiencing in the previous year the

short-term detrimental effects of drinking too much, such as hangovers.

Some types of alcohol-related harm:

- physical illness (e.g. cirrhosis, high blood pressure, obesity)
- mental illness
- public disorder, violence and crime
- family disputes, relationship break-ups
- child neglect and abuse
- road accidents
- accidents at work and in the home
- fire
- drowning
- absenteeism and unemployment

Some types of alcohol-related harm, such as cirrhosis, are directly related to the pharmacological effects of alcohol on the body. There are other causes of cirrhosis apart from alcohol, but, in Europe and North America, the vast majority of cases of cirrhosis are alcohol related. The frequency of cirrhosis in the population is therefore directly proportional to the average level of alcohol consumption in the population, and is thus often used as a relatively 'pure' marker of alcohol-related harm for the purposes of population studies. In the UK, rates of cirrhosis in young men and women are rising sharply (Donaldson 2001). Other types of harm, such as accidents, violence and crime, are more related to episodes of drunkenness, and hence the pattern of alcohol consumption is important as well as the overall level. The amount and type of alcohol-related harm in a country therefore reflects both the level and pattern of alcohol consumption. Wine-drinking countries such as Italy or France, with a relatively high average level of alcohol consumption but not much binge drinking, often have quite high levels of alcoholic liver disease but relatively low levels of drunkenness and alcohol-related violence. Countries such as the UK, with a lower overall level of alcohol consumption but more of a binge drinking pattern, usually have a lower level of alcoholic liver disease but more of those types of alcohol-related harm which result from drunkenness.

Most of the alcohol-related harm which occurs in the UK population is accounted for, not by alcoholics or heavy drinkers, but by people who have suffered harm as a result of intoxication through drinking too much at one sitting or drinking at the wrong time, such as before driving. Most of these people will have an overall weekly level of alcohol consumption which is within the moderate range. This means that the best way of reducing the total amount of alcohol-related harm in the population would be to get all the moderate drinkers to drink a little less and with more care. Such a change would have a much bigger combined impact on the total amount of alcohol-related harm experienced by the population than if every one of the relatively small numbers of alcoholics became a total abstainer. This apparently curious conclusion is sometimes called 'The Preventive

Paradox'. It illustrates the difference between individual risk and population risk, and it also applies to many other types of risk factor for illness, such as high blood pressure. The risk to the individual drinker is greatest for the heaviest drinkers but the risk to the population reflects both the number of people at risk and their individual levels of risk. The much greater number of moderate drinkers more than makes up for their lower levels of individual risk and means that most of the population's risk of alcohol-related harm arises from moderate drinkers.

Not just how much but also when

The overall level of alcohol consumption is not the only factor determining the risk of alcohol-related harm. The pattern and circumstances of drinking also make a difference. Consider someone who drinks 5 pints of beer each week. This amounts to 10 units of alcohol and is therefore well within the recommended weekly levels of sensible drinking. However, if our drinker consumes all 5 pints rapidly in one session on an empty stomach and immediately follows it by driving a motorbike on an icy road, then there is a very high risk of harm from an alcohol-related road accident.

Recommendations on sensible drinking should also include advice on the risk from intoxication under particular circumstances such as driving or operating machinery. Different circumstances demand different advice; many women who enjoy a drink under normal circumstances prefer to avoid alcohol completely during pregnancy rather than run even the smallest risk of alcohol-related harm to the foetus.

What are the factors influencing alcohol consumption?

A wide range of factors influence how much people drink.

Some factors which influence the level of alcohol consumption:

- affordability of drink
- availability (e.g. number of outlets, opening hours)
- cultural standards
- peer pressure
- advertising

The most important of these seems to be how readily available and affordable alcohol is. Putting it very simply, the lower the real price of alcohol and the easier it is to get it, the more people will drink. There is a very convincing relationship between the affordability of alcohol, the average level of consumption in the population and indicators of harm, such as the death rate from cirrhosis (see Figure 1.1).

The notion of availability of alcohol would include such things as how many bars or

licensed outlets there are in an area, how much of the day they are open and more intangible things such as how ready people are to offer alcohol at social functions. These can show quite dramatic changes over fairly short periods of time. Over the past 20 years, it has become much less socially acceptable to drink and drive. People are more likely to offer non-alcoholic alternatives alongside alcohol at parties.

Drugs

In general

In terms of the impact at a population level, many of the same considerations apply to drugs as to alcohol. The more easily available and the more

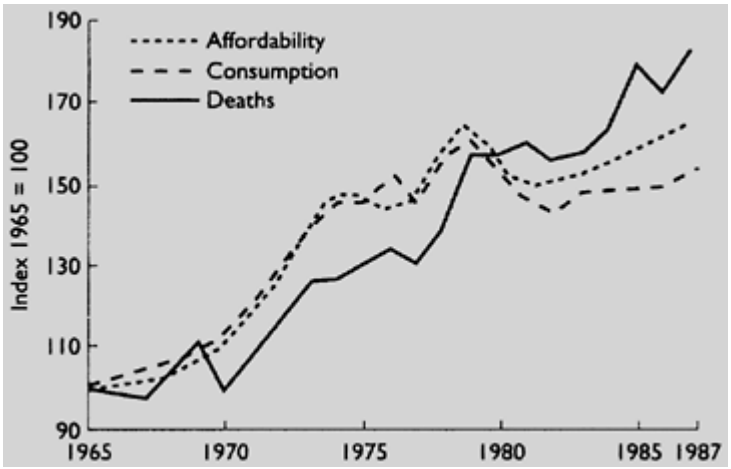

Figure 1.1 Alcohol consumption, affordability of alcohol and deaths from chronic liver disease UK 1965–87.

affordable drugs are, the higher will be the level of consumption and the higher the risk of resulting harm. None of the drugs considered in this chapter are used by anything like the proportion of the population who drink alcohol, but the frequency of use of most drugs is increasing with time and some of the commonest, such as cannabis, are now used by a substantial minority of the population.

There are some effects that are particular to specific drugs; for example, heavy amphetamine use carries a particular risk of paranoid psychosis. Other types of harm relate to the route by which the drug is taken; for example the risk of picking up HIV infection from the use of contaminated injecting equipment. And there are problems for drug misusers which arise from the illegal status of some drugs, particularly those called ‘hard drugs’ or ‘controlled drugs’ which are specified in the Misuse of Drugs Act and

whose possession or dealing attract heavy penalties (e.g. heroin and cocaine).

Epidemiology of use

We do not have for drug misuse the detailed historical records available for alcohol consumption. This is because some drugs, such as Ecstasy, are relatively new in this country and also because their illegal status means that those who produce, sell or use them may prefer to conceal the fact rather than volunteer the information in response to enquiry. The information that we have is derived mainly from: what people are prepared to admit in confidential, anonymous surveys; what the law enforcement agencies are able to detect; and statistics about those people who come to the attention of health services, either seeking help for their drug habit or with health problems which are obviously related to drug misuse, such as an accidental overdose of heroin. Recent UK surveys suggest that, for the population as a whole, about 6 per cent of people take an illegal drug in any one year (mainly cannabis) and that almost one-third of people aged 16–29 have tried an illegal drug at least once. In 1999, adolescents were especially likely to report some use; for example the European Centre for Monitoring Drugs and Drug Abuse estimates 42 per cent of British 15–to 16-year-olds have tried an illicit drug. So, drug use is much less common than alcohol use but is no longer rare.

The following sections summarize just a few details about some of the main categories of drugs which are misused in the UK. For further details, see the references. Many people who misuse one type of drug also misuse alcohol and other drugs, too.

Controlled drugs (hard drugs)

In the UK, the Misuse of Drugs Act 1971 and its associated regulations control many aspects of the misuse of illicit drugs. These classify what are perceived to be the most dangerous drugs according to their potential for harm. The term ‘controlled drugs’ is sometimes used to describe collectively this group of drugs, including heroin and cocaine, which are regarded as sufficiently serious threats to require inclusion in legal and official regulations. The popular term ‘hard drugs’ is often used in a similar way but is less precise because there is no official definition of it.

Controlled drugs specified in the UK Misuse of Drugs Act 1971:
Class A includes cocaine, heroin, morphine, methadone and LSD.
Class B includes oral amphetamines, barbiturates and cannabis.
Class C includes benzodiazepines (minor tranquillizers).
Class A drugs are regarded as being the most dangerous and are subject to the most careful controls and the heaviest penalties for

Epidemiology of use

The Home Office used to maintain an Addicts Index which recorded some basic details supplied on a confidential basis by doctors who saw patients who were using opiates or cocaine. This system has been superseded by requiring each regional office of the NHS Executive to maintain a drug misuse database. Each regional database now receives anonymized information sent in by all the agencies which see people presenting for treatment of drug misuse. Most people who use drugs will not be in contact with a doctor or any other service, and so these figures very much represent the tip of the iceberg; it has been estimated that the drug users known to treatment agencies are only about 10 per cent of all the drug users in the population at any one time. In summary, these two sources show that the number of known drug misusers has increased greatly over the past 30 years and is still increasing. The Home Office Addicts Index recorded just over 2,000 notifications in 1981 but over 20,000 in 1991. Between 1990 and 1993, there was a 30 per cent increase in the number of people notified as using opiates and a 130 per cent increase in the number of people notified as using cocaine. The predominant drugs of misuse among people notified to the Addicts Index and the regional drug databases are the opiates, particularly heroin. There has been a definite increase in the misuse of cocaine in recent years but it has not as yet reached anything like the epidemic proportions that were predicted from the experience in some US cities in the mid-1980s. Newer drugs such as Ecstasy have emerged, amphetamines remain popular and there has been some crossover from drugs which were originally prescribed by doctors for medical use but which have found their way onto the streets where they are misused, such as temazepam, a minor tranquillizer.

There is great interest in the proportion of drug users who take their drugs by injecting them. This is because injection using contaminated equipment carries major additional risks over and above the risks of the drug itself, principally from infection with viruses such as hepatitis and HIV. The proportion of notified addicts who report injecting declined from about 60 per cent in 1990 to just under 50 per cent in 1995. The proportion of drug addicts who are known to be infected with HIV has been estimated at between 1 per cent and 5 per cent across the UK as a whole, but with much higher levels in some localized areas at certain times, such as Edinburgh in the early 1980s when more than half of local heroin users were thought to be HIV positive.

Epidemiology of harm

There are ranges of population markers of drug-related harm.

Examples of drug-related harm:

- accidental overdose
- infections: hepatitis B and C, HIV, abscesses at injection sites
- mental illness: psychosis, depression

- suicide
- involvement in crime to finance a drug habit
- injury from accidents or violence
- legal, social and financial problems

Indicators or markers of drug-related harm include the number of deaths from causes known to be related to drug misuse, the number of injecting drug misusers who become infected with HIV, the numbers of arrests for drug-related offences and the financial cost to the country of drug-related crime. There are problems of classification and interpretation with all of them: it can be quite difficult to decide whether the death of a known drug user is actually due to their use of drugs, and, conversely, many deaths which are actually drug related may not be noticed as such if the link is indirect (e.g. a road accident). How are we to know if a sexually active injecting drug user, who is discovered to be HIV positive, acquired the infection through use of contaminated injecting equipment or by unprotected sex? The number of arrests which the police make for drug-related offences depends not only on how many people are committing such offences but also on how much resources the police decide to devote to this area of law enforcement when there are many other calls on their time.

In England and Wales for the period 1992–93, these markers of drug-related harm showed that there were about 1,200 drug-related deaths, mostly from overdose but about fifty from AIDS. About 68,000 people were convicted of a drug-related offence and the cost of thefts related to heroin use was estimated at £864 million. Acquisitive crime involving drug users has continued to rise through the 1990s, and Business in the Community (1999) now estimate that 66 per cent of retail crime is drug related.

Cannabis

Cannabis is by far the most widely used illicit drug in the UK. Survey figures suggest that about 21 per cent of the adult population have tried it at least once and that perhaps 10 per cent of teenagers report frequent use. It accounts for more than 75 per cent of arrests for possession of drugs. The drug is usually smoked as a mixture of tobacco with either the dried leaves or the resin of the plant. The extent to which it causes harm is a matter of both scientific and public controversy. Some people regard it as a harmless natural herb less dangerous than alcohol; others see it as a dangerous ‘gateway drug’ which leads users on to experiment with hard drugs. Most moderate users of cannabis experience no serious problems. Some users have short-lived attacks of anxiety or even psychotic reactions, but longstanding mental illness seems to be rare and it is not certain that it can be attributed to the drug. Like alcohol, cannabis does impair performance on skilled tasks such as driving and so may increase the risk of road accidents in those who use it, It persists in the body for much longer than alcohol, several weeks after use, and so may exert effects for quite a long time.