A guide to

Alcohol

and

Drug Dependence

J.S.Madden

Second Edition

WRIGHT

A Guide to Alcohol and Drug Dependence

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PREFACE TO THE SECOND EDITION

During the interval since the first edition of this book alterations have taken place in the prevalence of alcohol and drug misuse and in relevant professional attitudes. The rising frequency of alcohol problems has halted in many countries, or shown a downturn, following a similar trend in alcohol consumption. This intriguing development may reflect an economic recession, and therefore prove temporary; more hopefully the change might form an initial pointer to a cyclical decrease of the kind observed in previous eras. By contrast, the availability and usage of heroin has expanded to a degree that calls for a clearer and more widespread appreciation of drug dependence. Changing perspectives emphasize the detection and early treatment of alcohol misuse, its distinctive features among special groups, the detoxification of drug users followed by drug-free counselling, and preventive measures.

Fortunately the timing of the second edition allows consideration of the developments. New information has been introduced on the recognition of alcohol misuse, on alcohol dependence among the elderly and among doctors, and on outpatient withdrawal from opioids. Attention is drawn to fresh ideas on behavioural and physical aspects of dependence, and on levels of drinking that may be least likely to entail harm. All other sections have been revised carefully and when necessary modified.

Since organic causes and sequelae are closely intertwined with dependence, its themes have a distinctive medical element. The reader who does not possess a background allied with medicine can be encouraged by the reflection that many aspects of the subject (and therefore of this book) are not biological. The contents acknowledge the important contributions to our understanding that have been provided alike by distinguished nonmedical and medical investigators.

PREFACE TO THE FIRST EDITION

Remarkable changes have taken place during the past twenty years with regard to alcohol and drug dependence. Most parts of the world have witnessed a growth in the extent of alcohol problems. In the 1960s there was a rapid thrust of illicit drug consumption; its results remain with us in the form of increased psychoactive drug use, especially among young people. A process of international dispersal has meant that patterns of social and excessive alcohol usage, and of drug consumption, are losing any distinctive regional flavours that they may have possessed. Altered attitudes and mores have led to the more liberal intake of alcohol by females and youngsters, thereby enhancing the number of females and young adults who develop medical and social disabilities from their drinking. Drugs that are currently causing concern include heroin and other morphine-like substances, barbiturates, amphetamines and hallucinogens.

The responses of governmental, professional and lay organizations have been numerous and varied. Recent studies of prophylactic methods have furthered an understanding of measures which should prove effective, and would lead to the conclusion that a lack of will, but not of methods, explains the limited successes in prevention.

Therapy for persons with alcohol and drug problems, and the facilities for providing therapy, have developed extensively. Yet here also there remains a reluctance, prejudice or uneasiness in the minds of some professional therapists when they are required to treat an alcoholic or a drug user. An awareness of contemporary views about the processes that induce alcohol and drug dependence, and knowledge of the treatment prospects, can dispel such inhibitions.

It is therefore time for a book which attempts to deal, in a comprehensive way, with the theme of chemical dependence. In this volume the sections describe the basic issues and lead the reader towards an appreciation of more subtle or controversial matters. The references offer opportunities for further study both from basic research sources and from key reviews. Inevitably the approach concentrates on some aspects more than on others, but it is not intended that the perspective would exclude important topics or detract from the richness and complexity of the subject.

The volume recognizes that a wide range of professional interests now focuses on alcohol and drug problems. Recognition is given to the increasing awareness of the importance of social factors in the origin, development and prevention of harmful patterns of substance consumption. The care of individual alcoholics and drug users is not the preserve of a few specialists, or indeed only of doctors. The contents of the book should therefore interest persons involved in social work and the probation service as well as psychiatrists and other medical readers.

The proliferation of ideas, investigations and publications about alcohol and drug use has led to some confusion in the employment of words and concepts. There are, for instance, over one hundred definitions of the term 'alcoholism'. Yet the importance of clear and acceptable terminology is paramount. One of the foundations of Chinese society was the advice of Confucius: 'Rectify words'. This volume attempts to follow this precept by defining terms as necessary, by applying them in a simple and consistent manner, and by avoiding controversies that are semantic. Fortunately, the delimitation of the syndrome of alcohol dependence has opened a clear way from the jungle of alcohol terminology; its implications set an example for the area of drug dependence.

Many persons have stimulated and led the author by their encouragement, breadth of vision and initiative. They are too numerous to list, although I wish to express special thanks to Professor John Copeland for his generosity with time and advice. The failings of the book are not attributable to contemporaries or to the heritage left by forerunners, but are my responsibility.

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I am grateful in two other respects: first to my patients, whose tolerance and good humour refreshed and sustained the author, and secondly to my wife, without whose prompting and patience I would neither have started nor finished this book.

J. S. M.

FOREWORD

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Professional interest in alcohol and drug problems has greatly increased in Britain over the last 25 years. This has been not so much a discovery but a re-discovery of interest: alcohol problems and the misuse of opium were taken seriously by the medical profession during large parts of the nineteenth century. But there can be no doubt that during many of the earlier years of the present century only a few isolated enthusiasts spoke out against this neglect.

The fact that such a textbook as the present one can today be written bears witness to the renaissance. British work on alcohol and drugs has been much influenced by activities in other countries, and this is an area where the internationalism of medicine and science has been particularly important, but one of the stories which each chapter of this book implicitly tells is that over the last quarter century or so there has been a resurgence of British interest in the treatment and prevention of these problems, and there have been contributions from many centres to wide aspects of related research.

There has been a new awareness of the need for inter-disciplinary work, and the nature of the problems which are set by substance use may have contributed to a revision of some of the rather fusty attitudes of the medical profession towards the social sciences. The treatment problems that are encountered are similarly and nicely designed to overthrow oldfashioned notions of medical dominance: the interests of social work, nursing, occupational therapy and clinical psychology in treatment of alcohol and drug problems have been vital to the emergence of present concepts of care.

There has been a burgeoning of voluntary projects, and the establishment of Alcoholics Anonymous in this country has been of profound importance. Government committees have issued a number of major reports, which both for alcohol and drugs have sometimes constituted very worthwhile and influential contributions to thinking—Government departments which once seemed remarkably laggard in their interests now in many respects give an effective leadership. Relevant professional education is much better organized. The field has its debates and divisions, but what is more generally remarkable is the sense of co-operation and shared enthusiasm.

If this book, by its combination of astonishing range and thoroughness and wise selectivity, offers a text which bears witness to the energies and progress of recent years, its publication has significance also for the further forward march. The advance of any subject can sometimes at a particular moment be much helped by the arrival of the right textbook. This is such a book. By its stature as a work of scholarship, enlivened by keen determination to turn scholarship towards the most practical problems, this book is certain significantly to enhance an awareness of the seriousness of the matters of which it treats, and by its own stature it contributes to the stature of its subject. It is a book that will win wide admiration.

CONTENTS

Chapter 1

TERMINOLOGY, PREVALENCE, CAUSATION

Substances that change mental processes have been known throughout recorded history over all parts of the world. Many of the substances have been used in ways that are not necessarily harmful. The careful medical use of morphine, the occasional consumption of small amounts of alcohol to promote relaxation among participants at social gatherings, the inducement of slight mental stimulation by caffeine preparations are forms of drug usage that have been sanctioned by many cultures and are generally practised without adverse effects. But the consumption of morphine or alcohol can be damaging; many other drugs with the ability to affect the mind can also produce mental, physical and social disabilities for the consumer and adverse effects on society. Harm results in some instances from the single or infrequent use of a psychoactive agent, while unfortunate consequences are common during repeated usage if the individual is showing at least some of the features of dependence.

TERMINOLOGY

The Expert Committee on Drug Dependence of the World Health Organisation reaffirmed in 1974 several of its previous definitions and descriptions. In order to avoid the unnecessary use of alternative concepts the succeeding account follows in certain respects the WHO outline (World Health Organisation, 1974).

Drug dependence is a state, psychic and sometimes also physical, characterized by a compulsion to take the drug on a continuous or periodic basis in order to experience its mental effects, and sometimes to avoid the discomfort of its absence. Tolerance may or may not occur. A person can develop dependence to more than one drug; multiple dependencies can occur at the same time, or succeed or alternate with each other.

Psychological (psychic) dependence is a condition in which the drug promotes a feeling of satisfaction and a drive to repeat the consumption of the drug in order to induce pleasure or avoid discomfort.

Physical dependence is a state that shows itself by physical

disturbances when the amount of drug in the body is markedly reduced. The disturbances form a withdrawal or abstinence syndrome composed of somatic and mental symptoms and signs which are characteristic for each drug type.

Several types of dependence-producing drugs have been listed in the WHO account:

1. Alcohol-barbiturate type—for example, ethyl alcohol, barbiturates, benzodiazepines, chloral hydrate and other general sedatives.
2. Amphetamine type—including amphetamine itself, dexamphetamine, methylamphetamine, phenmetrazine.
3. Cannabis type—products of *Cannabis sativa.*
4. Cocaine type—coca leaves and their active ingredient cocaine.
5. Hallucinogen type—for instance, lysergic acid diethylamide (LSD), mescaline.
6. Khat type—preparations of *Catha edulis.*
7. Morphine type— substances naturally occurring in opium or their chemical derivatives (e.g. morphine, codeine, heroin), together with synthetic drugs that have morphine-like effects (such as methadone and pethidine).
8. Inhalants and volatile solvents—for example, carbon tetrachloride and toluene.

Withdrawal syndromes have been conclusively established only with drugs of the alcohol-barbiturate, amphetamine, cannabis and morphine types.

Although tobacco produces dependence and physical damage to the user, its effects on cerebral and mental function are slight. The WHO Committee therefore considered that it should give tobacco little attention compared with the other dependence-producing drugs.

There are also special psychological and social aspects of alcohol usage which justify, in some respects, the separate consideration of alcohol. Like tobacco, alcohol is socially and legally permitted by many nations. Legislation to prohibit its use was introduced in this century in Finland, Norway, Iceland and the United States, but was later repealed. In countries where alcohol is currently allowed, legal measures to enforce prohibition are unlikely to succeed unless the large majority of inhabitants come to desire this measure. Such a profound change of attitude is not likely in the foreseeable future. Measures to minimize alcohol disabilities should concentrate on promoting both the restrained use of alcohol and abstinence as acceptable means of prevention; the choice of means is personal and rests with the individual. Because of the wide degree of cultural and legal acceptability of alcohol its connotations differ from other drugs, while alcoholics as a group tend to resemble the rest of the population more closely in mental and social characteristics than do persons dependent on alternative substances. It is appropriate therefore to give alcohol more special consideration and, while

continuing to view it as a drug, to refer to it in a separate category from other psychoactive substances.

It is logically feasible to suggest certain alternatives to the WHO types of dependence-producing drugs. Employing pharmacological concepts, cocaine differs mainly from amphetamine in the occurrence of doubts whether tolerance develops to the former. The potent ingredients of khat are allied to amphetamine in pharmacological action and chemical structure. Cocaine, khat, the amphetamines, and certain sympathomimetic drugs like ephedrine, could be linked together as stimulants of the central nervous system. The distinction between amphetamines and some hallucinogens is artificial; certain hallucinogens are similar in structure to amphetamine, while the amphetamines themselves produce hallucinations.

The list of drugs of dependence should undoubtedly be extended to cover certain simple analgesics, i.e. pain-relieving substances not of the morphine kind. Drugs that resemble atropine and have anticholinergic actions also possess psychotropic activity and should receive consideration.

The alcohol-barbiturate type of drugs and the morphine-like type are central nervous system (CNS) depressants; each of these two categories produces a strong abstinence syndrome with its own distinctive pattern on cessation of the repeated, excessive consumption of a drug from the category. CNS stimulants of the amphetamine type, and cannabis, induce withdrawal effects which are detectable but mild.

'Drug addiction' and 'drug habituation' were terms which used to engender a good deal of semantic argument about their differentiation. WHO in 1964 boldly resolved the predicament by proposing the abolition of both terms; it recommended that they should be discontinued and replaced by the title 'drug dependence' (World Health Organisation 1964). People remain addicted to verbal habits, so the phrases 'drug addiction' and 'drug addict' are still sometimes used—or misused.

Misuse and *abuse* are employed to denote the nonmedical use of drugs or, in the case of alcohol, its excessive use. Both words imply value judgements that vary between societies and are difficult to validate. Additionally, 'abuse' is an unfortunate choice as it is especially pejorative and abusive to drug and alcohol misusers. The terms, however, retain employment to cover consumption patterns that may fall short of dependence. A further report from the World Health Organisation has proposed a series of concepts that are both objective and detailed (WHO Memorandum, 1981; Commentaries, 1982).

Unsanctioned use denotes alcohol or drug usage that is socially disapproved. The phrase simply reports the disapproval and does not necessarily defend its grounds.

Hazardous use describes consumption which may lead to harm for the user (e.g. cigarette smoking).

Dysfunctional use indicates that impairment of psychological or social function has developed (for example, difficulties at work or in marriage).

Harmful use intimates that organic damage or mental illness have been produced in the user.

Dysfunction and harm may arise from hazardous use among individuals who have not developed dependence.

The phrase 'physical dependence' gives rise to confusion, since it is not always accompanied by further alcohol or drug consumption or even by the desire to take the substances. For instance, the postoperative use of morphine-like compounds to relieve pain may induce abstinence symptoms in patients who do not wish to continue the drugs; they could hardly be considered to possess dependence since they do not show drug-seeking behaviour or experience the drive to take drugs. For this reason, and because physical dependence and tolerance often develop in parallel, the 1981 WHO Memorandum proposed the term *neuro-adaptation.* The name denotes the adaptive nerve changes which underlie both tolerance and the withdrawal features of physical dependence.

The Memorandum noted that dependence is a syndrome which shows a range of intensity and which involves the following features:

— subjective experience of a compulsion to use a drug, usually during endeavours to reduce or cease drug intake.
— the desire to stop drug intake although consumption continues.
— a relatively stereotyped and inflexible pattern of drug consumption.
— neuroadaptation (shown by tolerance and withdrawal features).
— salience of drug-seeking behaviour over other activities.
— rapid renewal of the syndrome after an interval of abstinence.

A separate WHO publication has focused on alcohol dependence; the report has noted the difficulties that have arisen in reaching an acceptable definition of alcoholism and proposed that the term is replaced by the phrase 'alcohol dependence syndrome' (Edwards et al., 1977). A similar approach is adopted by the ninth revision of the International Classification of Diseases (ICD); from January 1979 the preferred ICD title has been 'alcohol dependence syndrome', with 'alcoholism' listed under the title as an inclusion term.

Practical assessment of a patient or client who possesses an alcohol or drug difficulty should note:

— the pattern of intake of alcohol, drug or drugs.
— degree of dependence, if present.
— nonmedical and medical disabilities induced by alcohol or drug consumption.
— results of past and present periods of care and treatment.
— drawbacks and assets in the individual and environment that can promote or curb the alcohol or drug intake.

PREVALENCE

The correct answer to queries concerning the exact prevalence of alcohol and drug misuse, dependence and consequent disabilities is to reply that their prevalence is unknown. Because of social and legal stigma the conditions are often concealed. There are merely approximate estimates of their incidence, based on case findings surveys and on indirect indices that point to their frequency or to variations in their frequency.

Relevant case finding should involve two distinct and complementary research activities. The first comprises tactfully worded enquiries among a representative sample of the population about the extent of personal alcohol or drug consumption and attendant harm. The second approach obtains data from the numerous agencies, official and voluntary, that are likely to encounter people who have alcohol or drug disabilities. A full range of agencies, and both methods of approach, are necessary. For example, an assessment of alcoholics known to their general practitioners in England and Wales estimated an incidence of 1·1 alcoholics per thousand adult patients; this figure produced a total estimate for the two countries of about 40000 (Parr, 1957). It is generally agreed that this assessment, although praiseworthy as a pioneer study, resulted in a considerable underestimate since general practitioners are aware of only a small proportion of the alcoholics in their practices. In the English county of Cambridgeshire, Moss and Beresford Davies (1967) obtained data from general practitioners, psychiatrists, hospitals, police, probation officers, a Salvation Army hostel, children's welfare agencies, marriage guidance counsellors and Alcoholics Anonymous. The research uncovered an incidence for the county population aged 15 and over of 6·2 alcoholics per thousand males and 1·4 per thousand females. But the study, painstaking though it was, omitted a general population survey.

Two parallel enquiries of the dual nature recommended above have been conducted in a London suburb (Edwards et al., 1973). The first enquiry, of a wide range of agencies, revealed an incidence of problem drinkers per thousand persons aged 16 or over as 8·6 for men, 1·3 for women and 4·7 overall. The other enquiry consisted of a household survey and gave a prevalence of problem drinking per thousand adults aged 18 or over as 61·3 for men, 7·7 for women and 31·3 overall. Only 13% of the excessive alcohol users identified in the house-to-house sample were reported by the agencies which were requested to notify their problem drinkers.

The difficulties of case finding are further highlighted by studies of the Washington Heights suburb of New York (Bailey et al., 1965, 1966). A household survey revealed 19 persons with alcoholism per thousand population aged 20 or over; the ratio of men to women was 3·6 to 1. The most vulnerable inhabitants were widowers, and divorced or separated

persons of both sexes. There were associations between excessive drinking, race and religion; the alcoholism rates per thousand were 40 for Negro Baptists, 20 for other Protestants, 24 for Roman Catholics, and 2 for Jews. This sample survey of households uncovered 132 alcoholics, yet it is significant that a psychiatric register revealed another 7 who had been admitted to mental hospitals with alcoholism but who gave no evidence of drinking problems during interview. Also disturbing from the viewpoint of scientific precision were the results of repeat interviews in the same suburb of 99 of the alcoholics and their spouses, together with a comparison group of 343 of the previous respondents who had not been revealed as problem drinkers: 25 of the alcohol misusers did not acknowledge a drinking problem in the second survey; 29 of the comparison group were identified as alcoholics only in the second interview. The researchers suggested that under-reporting was produced by the stigma of alcoholism, by temporal modification of excessive drinking towards abstinence or moderation, and by alterations with time of controlled drinking towards excess consumption. Relevant here are the comments of Edwards (1973) on the methodological problems appertaining to the epidemiology of alcoholism. The difficulties include definition of the condition, but problems also arise from transient drinking reactions that are acted out for a period by some of the surveyed subjects. Edwards (1973) has also described the implications of case finding for treatment facilities.

There are several indirect indices of the prevalence of alcohol disabilities, including dependence. Arguments can be levelled against the validity of each, but when the majority of indices point the same way it is permissible to draw instructive conclusions about the relative prevalence of alcohol disabilities and dependence in different nations or ethnic groups, and to form judgements concerning temporal alterations of prevalence.

National consumption levels of beverage alcohol both determine and reflect the prevalence of dependence and other alcohol problems. The more alcohol that is consumed *per capita* by a community then the more persons among the community drink heavily. Personal consumption in excess of 15 cl of absolute alcohol* per day is associated with alcohol disabilities and is typically reported by alcoholic patients (de Lint, 1974). High national consumption figures raise the numbers of drinkers who exceed a daily average of 15 cl of absolute alcohol, and are correlated with an increased death rate from cirrhosis of the liver (de Lint and Schmidt, 1972; Smith, 1982). High national rates of alcohol consumption and cirrhosis deaths are found most markedly in France, but also in Austria, Portugal and Italy.

*15 cl (approximately 120 grams) of absolute alcohol is equivalent to 375 ml (12·7 oz) of spirits containing 40% alcohol, or 937 ml (31·6 oz) of wine containing 16% alcohol, or 3000 ml (101·4 oz) of beer possessing 5% alcohol.

Alcohol dependence is a major contributor to the *death rate from cirrhosis of the liver.* The association afforded the basis for the formula devised by the late E. M. Jellinek for estimating the incidence of alcoholism.

The equation that Jellinek originally proposed was $A = \frac{PD}{K}$.

A = total number of alcoholics with physical complications in a given year.
P = proportion of deaths from cirrhosis of the liver attributable to alcoholism.
D = number of reported deaths from cirrhosis of the liver.
K = proportion of alcoholics with complications to die from liver cirrhosis.

The formula was modified later to include the numerator R, which is the ratio of all alcoholics to those who have complications.

On the basis that a quarter of alcoholics have physical complications WHO employed the Jellinek formula to report in 1951 that there were about 370000 alcoholics in England and Wales (World Health Organisation, 1951). Although Jellinek (1959) later advocated discontinuance of his formula, subsequent estimates show a consistently rising prevalence in England and Wales and suggest that the original WHO calculations were approximately correct when made.

Convictions for drunkenness and for drinking and driving bear some relation to alcohol dependence, as well as to the drinking behaviour of nonalcoholics and the activities of the police. A London study of drunkenness offenders found that 50% were physically dependent on alcohol and that another 26% possessed serious drinking problems; the majority therefore were not merely casual roisterers (Gath et al., 1968). The major age group of drinking and driving offenders in Britain comprises persons aged under 30; many of these young people (and some of their older counterparts) are not dependent on alcohol, but obviously alcoholics who drive after taking alcohol are prone to arrest for drinking and driving offences.

Hospital admissions for alcoholism, and alcoholic psychosis afford another indication of the prevalence of alcohol dependence. This remark applies even though the data for hospital admissions also reflect the willingness of problem drinkers to enter hospital and the readiness of hospitals to receive them. Many countries, including Britain and Ireland, have shown a rise since 1960 of the number of alcoholic admissions to hospital.

The reported death rate from alcohol disabilities is a relatively poor pointer to the frequency of dependent drinking or other forms of alcohol misuse. Not all the relevant deaths receive a correct assessment of their cause. In many instances (for example, of alcoholic cirrhosis deaths) when alcohol consumption is recognized by a doctor in Britain as the responsible agent it is deliberately omitted from the death certificate.

The figures for mortality produced by alcohol—as distinct from mortality, ascertained from death records, among known hazardous drinkers—are misleadingly low. A Swedish study revealed that alcohol was the commonest underlying factor in the mortalities of an unselected group of middle-aged males, yet only one-sixth of the deaths from alcohol misuse appeared as such in the official statistics (Petersson et al., 1982).

Trends of alcohol consumption and of disabilities produced by alcohol in England and Wales can be judged from *Tables* 1–4. All the indices rose during the 1960s and 1970s.

Table 1. United Kingdom consumption of alcohol; *per capita* figures in pints based on population aged 15 years and over.

Year ending 31 March	*Beer*	*Spirits*	*Wine*
1959–60	192·5	3·9	4·7
1964–65	207·3	5·1	7·1
1969–70	228·3	4·7	8·1
1974–75	263·1	8·7	14·9
1977–78	271·9	8·6	15·1
1978–79	270·8	10·7	17·4
1979–80	276·7	11·2	19·2
1980–81	261·3	9·9	18·0

Source: *U.K. Statistical Handbook, 1982.* London, The Brewers' Society.

Table 2. Deaths from cirrhosis of the liver in England and Wales.

	Rate per million	
Year	*Male*	*Female*
1960	31	25
1965	31	27
1970	31	26
1975	38	36
1978	43	36
1979	50	39
1980	48	42
1981	48	41

Due to changes in the International Classification of Diseases in 1979 the deaths from that year include chronic hepatitis and chronic liver disease.

Table 3. Drunkenness convictions in England and Wales.

Year	*Male*	*Female*	*Total*
1960	63861	4248	68109
1965	69091	3889	72980
1970	77072	5302	82374
1975	96880	7572	104452
1980	112152	10107	122259
1981	99696	8895	108591