ALCOHOLISM

A Biobehavioral Disorder

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Patients seeking aid in this situation generally initiate therapy because of some degree of external coercion. Such coercion may range from threats of an employer to terminate employment to threats of a spouse to end a marriage unless the patient seeks and obtains assistance. In this situation, the patient is usually both frightened and angry and the sum of both conditions is often interpreted by the physician as evidence of lack of motivation to do something about his or her drinking problem. Motivational factors have become so emphasized in diagnosis and therapy that they have frequently been assigned predictive value in determining efficacy of treatment. It is therefore possible for a physician to prematurely assume a poor prognosis for a patient who appears "poorly motivated" and then to employ a "poor-motivation" vs. "good-motivation" dichotomy to account for either success or failure of the treatment provided. Since motivational states are rarely static in patients treated for any disorder, it is obvious that this criterion is not of great value.

Differential Diagnosis

Although there have been significant advances in public perception of alcoholism as a disease rather than evidence of "moral weakness", a severe stigma continues to be associated with this disorder. In most instances, patients with alcohol-related illness recognize this stigma and are reluctant to fully discuss the duration or severity of their drinking problems. Successful

case finding and elucidation of past and current problem history taking involve techniques which are common to all psychiatric interviewing procedures. Since these are discussed in other portions of this *Handbook* (see Volume 1, Chapters 53 and 54), they will not be repeated here.

Much attention has been paid to the role of attitudes and values held by physicians in determining their diagnostic approach to patients with alcohol problems. Similar contingencies probably apply to all categories of mental disorders and perpetuation of emphasis on the importance of this issue provides a rationale for accepting or rejecting patients. At the present time, there are no data which specify the optimal qualities, attitudes and approaches in the treating physician as a determinant of treatment outcome.

The process of differential diagnosis for alcohol related problems requires a conceptual approach which has been employed by physicians for many decades in general medicine. In psychiatric practice, this approach often suffers because of lack of basic information about causation and natural history of mental illness. An attempt has recently been made to systematize the diagnostic criteria for alcohol abuse and alcoholism. These criteria include behavioral, physiological, and attitudinal factors, with particular attention to the major illnesses associated with alcoholism and the related patterns of clinical laboratory test abnormalities. Although this system is imperfect, it represents a considerable advance which deserves attention and critical

appraisal by physicians.

Treatment of Alcohol Intoxication

There are no effective, readily available means of rapidly reducing the blood-alcohol concentration of a severely intoxicated individual. Although the rate of ethanol metabolism can be increased by fructose administration, this technique has found little successful clinical application since its discovery thirty-five years ago. Recent explorations of hemodialysis procedures to rapidly reduce blood-alcohol concentrations have limited general applicability because of their expense and potential risk of infection.

Fatal alcohol poisoning is very rare. There are occasional reports of children or adolescents who die of respiratory depression following an overdose of alcohol. However, in view of the many people who drink and the large volumes of alcohol consumed, it must be concluded that alcohol is a relatively safe drug in comparison to the opiate narcotics. It is virtually impossible to drink an acutely toxic amount of alcohol before vomiting or unconsciousness occurs.

The comparative safety of alcohol may also be related to its dual properties as a drug and a food. Alcohol does contain calories and is metabolized like other carbohydrates. The principal enzyme responsible for alcohol metabolism, alcohol dehydrogenase, is ubiquitous in body organs and

most highly concentrated in liver. Consequently, the lethal toxic potential of alcohol is counteracted by nature's provision for its rapid degradation.

The recent increase in polydrug abuse requires added caution in treatment of acute intoxication. The concurrent use of several drugs which may act synergistically can result in overdose. Improved techniques for determining the blood concentrations of, e.g., heroin and barbiturates as well as ethanol, can aid the physician in accurate diagnosis. Fast acting pharmacological antagonists are currently available for heroin but not for barbiturates or alcohol.

Since acute intoxication in the chronic inebriate is usually complicated by other medical problems (see pp. 385-388) it is essential that the care of afflicted individuals occur in the context of good medical management. Until recently, it has been difficult, especially for impoverished alcoholics, to obtain adequate medical treatment for the acute effects of alcohol. However, it is likely that most of these patients are admitted to hospitals for treatment of acute intoxication under the guise of some other diagnostic criteria.

Following the recent change in the legal status of intoxication and alcoholism in 1966, a number of detoxification centers were established to treat the acute inebriate. While these facilities do provide some resource for patient care, they were seldom established within the mainstream of medical

care. Consequently, there is great danger that these centers may become nothing more than a respectable version of the traditional “drying-out” facilities, i.e., the jail or the drunk tank.

Treatment of Alcohol Withdrawal

Rather good progress has been made by biomedical scientists in devising new methods for the treatment of the alcohol withdrawal syndrome. Improvements in treatment have occurred primarily because of general advances in medicine which provide more accurate diagnosis and better patient management, i.e., treatment of metabolic disturbances and infections which frequently accompany the abstinence syndrome. Less than twenty years ago, the mortality associated with delirium tremens was reported as about 15 percent in various hospitals and institutions. Today, the incidence of death associated with delirium tremens has fallen to less than 1 percent.

The development of new psychopharmacological agents, particularly the minor tranquilizers, has provided a means of mildly sedating patients and reducing severity of agitation and tremor without compromising the patient’s ability to eat well and receive other medical care. Chlordiazepoxide (Librium) has been reported to be an effective anticonvulsant in the treatment of withdrawal seizures (see also pp. 383-385).

Treatment of Alcoholism

At present, there is no specific and uniformly efficacious treatment either for the disease of alcoholism or for problem drinking. The treatment techniques that have been used include individual and group psychotherapy, Alcoholics Anonymous, aversive conditioning therapies, Antabuse, vitamin therapies, and LSD treatment, singly or in various combinations. In the few relatively controlled therapy evaluation studies, the rate of improvement or alcohol abstinence following therapy was very low. Since the spontaneous recovery rate for alcoholics has been estimated at about 20 percent, the efficacy of the existing therapies is discouragingly low. These figures compare rather poorly with the improvement rate of heroin addicts treated with methadone, an estimated 70 percent.

The complexities and difficulties involved in treating the chronic alcohol abuser have been thoroughly reviewed by many concerned investigators. Since all variants of alcoholism are multiply determined, the treatment of alcohol problems presents the challenge of any complex behavioral disorder. The dynamic conceptualizations of an “alcoholic personality” have received no empirical support, and there is considerable heterogeneity on many dimensions, even among the end stage, “skid-row” alcoholics. Although there is no evidence to indicate that alcoholism is invariably associated with a predisposing psychiatric illness, the development of problem drinking rarely

occurs in isolation from emotional, interpersonal, and job-related problems. Whatever its origins, alcoholism is characterized by a vast diversity of related difficulties.

The treatment of alcoholism is further complicated by the fact that most people with alcohol problems tend to deny the reality of their illness and to reject treatment. It has been shown that patient acceptance of treatment can be greatly improved if initial hospital contacts are sympathetic and positive. However, physicians have tended to reject alcoholic patients and to avoid diagnosing the problem unless it was glaringly apparent in the terminal phase. Frustration with relapsing patients who deny the significance of their alcohol problems, and limitations of available treatments have contributed to physicians' negative attitudes. The point has often been made that treatment goals for the alcoholic should have limited objectives and a multimodality therapy suited to the needs of the individual and his resources should be offered. The logic of this position is obvious and can be extended to argue for treatment of the alcoholic within the mainstream of medical practice, where the greatest range of medical, psychiatric, and social services is potentially available. However, the question of which treatment will most benefit the patient with alcohol problems remains unanswered. Until there is a better understanding of the disease process of alcoholism, and better treatments available, it is unlikely that the incidence of alcoholism will be greatly reduced, despite the recent improvements in the delivery of health-care

services to alcoholics.

The low success rate of current treatment approaches seems to point to the need for an effective pharmacotherapy for alcohol addiction. The recent advances in the treatment of heroin addiction have occurred largely because of the availability of blocking agents or antagonists. However, the use of blocking agents for heroin addiction has been criticized because these agents have high addictive potential. An ideal blocking agent for any centrally acting drug of abuse, including alcohol, would have the following characteristics: (1) low addictive potency; (2) little or no synergistic action with other drugs; (3) no central nervous depression or excitatory effects. In essence, the drug of choice for treating alcoholics would be more closely analogous to a narcotic antagonist than a blocking agent. It should be emphasized that the rationale for the use of blocking agents which reduce the subjective effect of a drug is very different from that for the use of Antabuse which produces severe discomfort, and potentially lethal consequences if taken in combination with alcohol.

In view of the wide spectrum of alcohol-related problems, drug therapy alone would not suffice. A variety of other psychological and social interventions would probably be necessary to produce the greatest change in alcoholics with diverse behavioral, biological, and social problems. However, an effective drug therapy would permit other types of therapeutic

intervention to occur under conditions where confounding effects of perpetuation of alcohol intake were significantly reduced.

Treatment Evaluation

One of the most important and frequently ignored issues related to the treatment of alcoholism is the problem of evaluation. Unless there are adequate evaluation and follow-up data, it is not possible to demonstrate the efficacy of any treatment approach. One fundamental issue in evaluation is the establishment of valid outcome criteria. The establishment of comprehensive criteria of efficacy which can be uniformly applied to all treatment programs is critical for adequate evaluation. There has been no consensus that the traditional goal of absolute abstinence is the optimal therapeutic goal for the alcoholic. Indeed, it appears that for many alcohol abusers, giving up drinking completely can also result in severe social and psychological dysfunction. There is accumulating evidence that some alcohol addicts may be able to return to social drinking. The persistent rationale for the treatment criterion of absolute abstinence is based on the erroneous concept of "craving", which is discussed under Psychological Dependence, p. 382.

Once outcome criteria have been formulated, construction of an adequate clinical research design assumes paramount importance.

Traditionally, it has been argued that clinical research cannot yield "hard data" because of the complexity of the dependent variables, the difficulties in controlling relevant factors as well as ethical constraints. It is curious that the expectancy for objectivity, sophistication, and accuracy in basic research has not been extended to treatment research. A lack of these qualities in the laboratory would have severe consequences for research development, and it could be argued that casual evaluation of treatment programs could have even more profound consequences for longevity and quality of human life. It does not seem unreasonable to require an even more precise specification of methods and outcome criteria for treatment programs which involve human beings than for isolated physical and chemical studies involving *in vitro* biochemical constituents. Enthusiastic testimonials by proponents of a particular treatment approach are too often substituted for adequate data. Awareness of the difficulties attendant on clinical treatment research should not constitute an excuse for neglecting or evading basic tenets of experimental design. A lucid summary and discussion of basic requirements for the design of clinical research has recently been prepared by Ludwig.

Prevention

There is little question that the best treatment for any disorder is prevention, and significant emphasis has been placed on public education concerning use hazards in virtually all drug-abuse areas. Evaluation of the

impact of such public education and prevention efforts is extremely difficult. The problem is complicated by the lack of good data on the incidence and prevalence of alcohol abuse and alcoholism, and the many difficulties associated with adequate case finding (see discussion on pp. 374-376). In the absence of firm incidence data, it is difficult to demonstrate conclusively that public-education programs or attempts to shape attitudes have had a significant impact on alcohol-abuse problems. Some preliminary evidence suggests that naive programs of public education and attitude shaping may sometimes prompt exploration and thereby increase the incidence of drug-abuse-related problems. Unfortunately, problem drinking usually occurs in situations where behavior is not determined by logical thinking, but rather by internal and external stress-contingent factors which are not highly amenable to rational persuasion. People with well-established alcohol related problems may be unresponsive to reminders that a certain pattern of drinking can be dangerous to their health. There is probably no substitute for the early development of responsible attitudes about alcohol use and awareness of the nature of alcohol problems.

Prevention techniques designed to change attitudes are quite distinct from coercive efforts to control distribution of alcohol or to prevent some individuals from drinking through imposition of age limits, etc. Attempts to control alcoholism through prohibition were a dramatic and unequivocal failure. There has been little systematic study of the effects of increased

taxation or restricted hours for bars and liquor stores in areas where these techniques have been applied. It is often argued that consumption of low-alcohol-content beverages such as beer may prevent alcoholism. This argument is somewhat misleading in that consumption of large enough quantities of a 6-percent alcohol beverage can yield an alcohol intake equivalent to that of the distilled spirits drinker. Physical dependence upon alcohol has been seen in individuals who consume large quantities of beer and wine.

Until there is a better understanding of the many factors which contribute to the development and maintenance of alcohol abuse, it will be difficult to formulate more effective approaches to the prevention and treatment of alcoholism.

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Notes

[1] Portions of this chapter are taken from an administrative report on Alcohol Use and Alcoholism prepared for the Special Action Office for Drug Abuse Prevention of the Executive Office of the President by the senior author.

2 Recent reviews of the legal status of intoxication and alcoholism may be found in Chapter 7 of Legal Issues in Alcoholism and Alcohol Usage

3 The effects of alcohol intoxication on memory function and sleep will be discussed under Clinical Disorders.

4 This material is abstracted from Dreyfus. Numbers refer to bibliographic entries.

5 Most concepts of memory function differentiate between a “short-term” registration phase and a “longterm” consolidation phase, with the implication that these are sequential processes required for subsequent information retrieval. A recurrent source of confusion in the short-term memory literature has been the inconsistency in definition of this term. Short-term memory has been variously defined as l sec., 5 sec., 1 min., 5 min., and 30 min.