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ALCOHOL AND ALCOHOLISM

Report of an Expert Committee

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WORLD HEALTH ORGANIZATION

PALAIS DES NATIONS

GENEVA

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EXPERT COMMITTEE ON ALCOHOL AND ALCOHOLISM

Geneva, 27 September – 2 October 1954

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ALCOHOL AND ALCOHOLISM

Report of an Expert Committee *

1. Introduction

When the Expert Committee on Mental Health took up the question of alcoholism in 1949, it suggested that this matter should be studied by a special sub-committee.¹ At its first session, held in December 1950, the Alcoholism Sub-Committee submitted as its basic recommendation

“ that WHO should take all steps within-its power to stimulate public-health services to undertake work on this problem and should be prepared to provide advisory, educational, and other services on this subject to such national health authorities as request them ”.²

This general recommendation and more specific suggestions contained in the two reports of the Sub-Committee,³ as well as regional seminars conducted by WHO and consultative services rendered to some governments, have undoubtedly given an incentive to activities in the desired direction. Nevertheless, in many countries the tendency remains to deal with the problem of alcoholism on the social-welfare level rather than in the framework of public health. In many countries, the concern of public authorities with the problems of alcohol still does not go beyond some regulation of the sale of alcoholic beverages, the punishment of drunkenness, and the care of alcoholics with psychoses.

While the physical and the mental sequelae of alcoholism have always been recognized as medical disorders, there has been—outside the circle of specialists—much less readiness to regard as a matter of medical concern the behaviour which results in these complications.

One of the difficulties in engaging the active interest of public-health authorities in the control of alcoholism lies in the fact that the medical

* The Executive Board, at its fifteenth session, adopted the following resolution :

The Executive Board

1. NOTES the report of the Expert Committee on Alcohol and Alcoholism ;
2. THANKS the members of the Committee for their work ; and
3. AUTHORIZES publication of the report.

(Resolution EB15.R10, *Off. Rec. Wld Hlth Org.* 1955, 60, 4)

¹ *Wld Hlth Org. techn. Rep. Ser.* 1950, 9, 19

² *Wld Hlth Org. techn. Rep. Ser.* 1951, 42, 4

³ *Wld Hlth Org. techn. Rep. Ser.* 1951, 42 ; 1952, 48

nature of this problem is presented to the public-health worker in the form of authoritative statements rather than through the explanation of those features which give alcoholism the character of a medical disorder.

If public-health authorities are led to believe that the problems of alcohol are entirely economic problems—and that is the entrenched opinion in many countries—they will not see the cogency of incorporating the control of alcoholism into their programme of activities. On the other hand, if it can be shown that alcoholism as a behaviour is *per se* a medical disorder and that socio-economic factors are contributing elements to its etiology, public-health workers will not shy away from it, as social and economic elements are involved in most or all health problems with which they have to cope.

The presentation of alcoholism and other problems of alcohol as a matter of medical concern, however, requires a good deal of clarification of certain aspects of alcoholism and some effects of alcohol which have often been left to tacit implication, and more frequently have been obscured by inconsistent and inadequately defined terminology, as well as by conceptions which remained on the level of figures of speech.

Such clarification can only be brought about gradually in a process of revision and re-evaluation. The Expert Committee on Alcohol (composed of pharmacologists and physiologists), which was convened in 1953,¹ contributed much towards the clarification of questions referred to it by the psychiatrists of the Alcoholism Sub-Committee of the Expert Committee on Mental Health. It became evident, however, that to approach certain questions satisfactorily required the direct exchange of experience among pharmacologists, physiologists and psychiatrists, as well as their agreement on the interpretation of some basic conceptions of alcoholism.

The present Committee, drawn from the Expert Advisory Panels on Mental Health and on Drugs Liable to Produce Addiction, has been convened for this purpose of direct mutual clarification of ideas.

The terms of reference of the Committee call not only for the discussion of some basic conceptions related to alcohol, but also for consideration of those features which differentiate the nature of the problems of alcohol among various nations. The statement of such differences is indispensable to the application of suggestions offered by an international body.

As there was initial agreement that the term "alcoholism" does not designate a definite nosological entity, but is a collective term for a "family of problems" related to alcohol, the Committee was concerned to determine and define those features of the various alcohol problems which give them a medical and public-health character.

¹ See *Wld Hlth Org. techn. Rep. Ser.* 1954, 84.

Pre-eminent among these features of the alcoholic process are some symptoms which have been explained often as a "craving" for alcohol; "withdrawal symptoms"; the conception of the "loss of control"; and the "alcoholic amnesias" ("blackouts"). The clarification and definitions of the above items serve as a basis for the reconsideration of the position of alcohol in relation to drug addiction and for a classification of the disorders induced by the heavy use of alcoholic beverages.

The Committee has also considered certain forms of excessive drinking which by definition do not constitute alcoholism but which can, nevertheless, have grave consequences and form, in certain countries, the main problems relating to alcohol.

2. "Craving" for Alcohol

The terms "craving", "irresistible desire", "need", and sometimes "appetite" have been employed in alcohol literature to explain certain or all forms of abnormal drinking behaviour seen in alcoholics.

There exists a variety of alcoholic drinking behaviour which specifically suggests "craving" in the vernacular sense, but closer analysis reveals that different mechanisms are at work and that a term such as "craving" with its everyday connotations should not be used in scientific literature to describe them if confusion is to be avoided.

The onset of the excessive use of alcohol, the drinking pattern displayed within an acute drinking bout, relapse into a new drinking bout after days or weeks of abstinence, continuous daily excessive drinking, and loss of control, are all behaviours which have been claimed as being manifestations of "craving" of the same order.

"Craving" and its alternative terms have been used to explain drinking arising from (a) a psychological need, (b) the physical need to relieve withdrawal symptoms, or (c) a physical need which originates in physiopathological conditions involving the metabolism, endocrine functions, etc., and existing in the drinker before he starts on his drinking career or developing in the course of it.

It has been pointed out by some investigators that a physical craving for alcohol, as indicated by withdrawal symptoms (see section 3), is seen immediately following withdrawal of alcohol only after prolonged, continuous, and heavy use; such a physical craving cannot be postulated as the cause of the resumption of drinking after a considerable period of abstinence when withdrawal symptoms are no longer present.

The Committee feels that a sharp distinction should be drawn between (a) the processes operative immediately after withdrawal of alcohol in the

situation described above, and (b) those which lead to resumption of drinking after the disappearance of withdrawal symptoms.

Since, on the interruption of continuous drinking, the distressing withdrawal symptoms provoke the drinker to seek relief from them by the use of more alcohol, the Committee would prefer to refer to this condition as a *physical dependence* on alcohol.

During a period of abstinence, even in the absence of withdrawal symptoms, one observes clinically the building up of psychological tension which provokes a "pathological desire"¹ for alcohol as a means of relieving this tension; in this condition, the individual may be said to be *psychologically dependent* on alcohol. It must be pointed out, however, that mounting psychological tension is not the only cause of resumption of drinking. It can also be caused by social pressure to drink, or sometimes even by the accidental ingestion of alcohol.

In addition, a physiopathological condition (other than physical dependence) cannot be excluded as one of the factors which may lead to the resumption of drinking after days or weeks of abstinence.

In all alcoholics, regardless of whether they have an abnormal disposition or suffer from any acquired personality disorder, one observes a weakening of that part of the higher personality from which the inhibition of primitive tendencies derives. As a result there appears a release of the primitive side of the personality. The pathological desire for alcohol therefore becomes more evident as the inhibiting forces weaken and ultimately fail.

There is also a relatively small group of drinkers in which the pathological desire for alcohol appears practically at the beginning of their drinking career, instead of after many years, and can thus lead to a rapid development of alcoholism. Among these will be found certain types of psychopaths (e.g., the volitionally weak and the impulsive personalities) and certain cases of somatic or mental disorder (e.g., post-concussion states, epilepsy, certain psychoses, and oligophrenia). There is, however, a minority in this group who show none of these conditions and yet manifest a pathological desire for alcohol from the beginning of their drinking history.

3. Withdrawal Symptoms

Withdrawal symptoms may be defined as those manifestations which appear either after cessation of drinking or even after an abrupt decrease in the rate of intake, either of which, in the opinion of the Committee,

¹ The Committee considers this term preferable to the frequently used "compulsion", which gives a false impression to patients and in addition has a clear-cut technical sense in psychiatry which makes it inappropriate in this connexion.

constitutes a "withdrawal". It follows that such symptoms are not present as long as a sufficient degree of intoxication is maintained and that the symptoms can be relieved by alcohol or by some drug with similar pharmacological effects (e.g., paraldehyde, barbiturates, and chloral hydrate).¹

The kind and intensity of the withdrawal symptoms vary between individuals but appear to be correlated with the degree of intoxication and with the length of time over which this degree of intoxication has been maintained before cessation, or reduction, of intake of alcohol. After relatively short periods of continuous heavy drinking, withdrawal symptoms include tremor, weakness, perspiration, hyper-reflexia, insomnia, anorexia, nausea, vomiting, diarrhoea, slight hypertension with postural hypotension and slight elevation of body temperature. Under these circumstances, the symptoms persist for only 24 to 72 hours.

After a prolonged period of very heavy drinking (more than 30 days of continuous intoxication with amounts of alcohol sufficient to induce definite motor incoordination), withdrawal symptoms include those mentioned above in a more severe degree and, in a proportion of drinkers, convulsions and mental disturbances ranging from hallucinations without loss of insight to typical delirium tremens. The symptoms usually appear in a definite time sequence. Tremor, weakness, digestive symptoms, and circulatory disturbances become evident within 12 hours after sudden cessation or reduction of alcohol intake; ² hallucinations without loss of orientation or insight may appear during the first 24 hours after withdrawal; convulsions, when they occur, usually appear between the twenty-fourth and forty-eighth hours after withdrawal; typical delirium tremens, when it occurs, is most likely to begin between the third and fifth days after withdrawal. Under such circumstances, symptoms usually disappear in 14 days or less, though minor disturbances may occasionally persist for six weeks. Convulsions and delirium must be considered dangerous to the life of the patient and should be prevented or treated by appropriate means such as the administration of sedatives with slow reduction of the amount over a period of days. Other kinds of disturbance (e.g., nutritional deficiencies, water and electrolyte imbalance) must also be corrected.

4. "Inability to Stop Drinking" and "Loss of Control"

Frequently the expressions "loss of control" and "inability to stop drinking" have been used synonymously and have been explained as manifestations either of an undefined or of a more or less specified "craving".

¹ Isbell, H., Fraser, H. F., Wikler, A., Belleville, R. E. & Eisenman, A. J. (1955) *Quart. J. Stud. Alcohol*, **16**, 1

² Victor, M. & Adams, R. D. (1953) *Res. Publ. Ass. nerv. ment. Dis.* **32**, 526

In the opinion of the Committee, the two expressions should not be employed interchangeably but should be used to designate two different manifestations of alcoholic behaviour, for the following reasons.

In "wine-drinking" countries, and some of the "beer-drinking" countries, a certain proportion of the drinkers reach a stage at which they cannot withstand any—even short—periods of abstinence, and drink day in, day out from rising till retiring for sleep, but do not lose the ability to regulate their alcoholic intake. They are able to adjust their degree of intoxication to the circumstances in which they find themselves. But they cannot be induced to abstain even when it has become evident to them that continuation of their drinking will lead to grave disease or other serious consequences.

This behaviour may be called "inability to stop drinking" and may be attributed to either physical or psychological dependence, or both. In wine-drinking countries this inability to stop has been regarded by some authors as the sole criterion of alcoholism.

A different course of the process of alcoholism may be seen in countries or social groups where the pattern of drinking involves predominantly the use of distilled spirits. Under such conditions the alcoholic, after an early phase of daily use, may change to drinking bouts separated by longer or shorter intervals. In these drinking bouts severe intoxication is the rule. After the ingestion of a small amount of alcohol, the drinker finds himself impelled to continue drinking on increasingly higher levels until he is stopped by external or internal factors. After that event, he is able to refrain from drinking for weeks or even months, i.e., he is "able to stop drinking", but he evidently suffers from "loss of control" within a drinking bout once drinking has started. The "loss of control", on account of its grave social and medical consequences, must also be regarded as a criterion of alcoholism.

The "inability to stop" may be followed in certain instances, after several years, by "loss of control" and, conversely, "the loss of control" occurring in irregular bouts may, in certain instances, lead to "inability to stop". Thus the drinking pattern may change from "bouts" to continuous daily drinking. Each of these drinking patterns may be found in all countries, but one of them may be so predominant that the other is liable to be overlooked.

The distinction between "inability to stop" and "loss of control" may be formulated as follows. The "inability to stop" indicates a pressure to express action regardless of consequences and must be considered a manifestation either of primitive impulses or of physical dependence. The "loss of control", on the contrary, indicates a failure of counter-pressures which act as brakes.

It may be noted that in some occasional excessive drinkers, particularly a certain proportion of "week-end" drinkers, the symptoms of "loss of control" may be manifested and may lead to a prolongation of the bout beyond the two week-end days. Although such "week-end" bouts may not occur more than four or five times a year, these drinkers must be regarded as alcoholics.

5. Alcoholic Amnesias ("Blackouts")

Amnesia may occur as one of the ordinary symptoms of severe alcoholic intoxication, but it seems that the pharmacological action of alcohol *per se* cannot account for a second type of amnesic episode which has been observed in many countries after the ingestion of small or medium amounts of alcohol. While unfortunately the blood alcohol-levels at the time of this second type of amnesia¹ have never been determined, the reports by incidental observers of such occurrences are consistent as to the relatively small amounts consumed and the absence of overt symptoms of intoxication.

These amnesias must be sharply distinguished from those occurring in "pathological reactions to alcohol", after "terminal sleep", as well as from the amnesias of the Korsakoff syndrome.

Amnesic episodes are reported with high frequency in the early stages of alcoholism in the United States of America, the Scandinavian countries, the Netherlands, and the United Kingdom. On the other hand, they seem to be more the exception than the rule in France and generally in the viticultural countries, but they may be seen in those countries in the very late stages of alcoholism.

The geographical distribution of amnesic episodes, as reported, suggests a tentative explanation on the basis of drinking habits. It seems that in those countries where the consumption of alcoholic beverages is well spread over the day and is taken in the form of wine or beer (although the daily total alcohol intake is high) amnesic episodes are not liable to appear at early stages of alcoholism, whereas in countries where distilled spirits are the common drink, and their drinking is chiefly concentrated at certain times of the day, the resultant quick changes in the blood-alcohol level may precipitate the amnesic symptoms. This seems to be borne out to some extent by the observation that, in countries where the symptom is rather uncommon, amnesic episodes are nevertheless seen in drinkers who do not follow the national drinking pattern.

The occurrence of these episodes in the first stages of alcoholism may have some significance in relation to the onset of the alcoholic disease process, but at our present stage of knowledge no definite statement can be

¹ Also known as "palimpsests".

made in this respect, nor can it be asserted at this time that their presence or absence is a differentiating symptom between certain forms of alcoholism. In view of the possible significance of early amnesic episodes, however, a thorough study of this phenomenon seems advisable.

In this connexion, it may be pointed out that amnesias may have varied origins both psychic and physical. Therefore, in any research on the origin of amnesic episodes it is imperative to consider in each case the characteristics of the episode and the circumstances under which it has occurred, as well as the personality of the individual in question.

6. The Position of Alcohol in relation to Drug Addiction

The Committee in considering this matter took note of the statement of the Expert Committee on Alcohol, in its first report, on the position of alcohol as a drug.¹ This statement reads, in part, as follows :

“ The question of whether alcohol might be listed as a habit-forming drug was then discussed, and the committee decided that this was not possible in view of certain characteristics of this substance.

“ In this connexion, emphasis was laid on the following features :

(a) The serious social consequences of excessive intake of alcohol must exclude alcohol from the habit-forming group of drugs.

(b) The sudden withdrawal of alcohol from heavy drinkers often causes withdrawal symptoms of short duration which imply some degree of dependence, although withdrawal of alcohol does not cause persistent abstinence symptoms as in the withdrawal of morphine and allied drugs.

(c) Although the committee hesitated to acknowledge the increased voluntary intake of alcohol observed in animals under certain experimental conditions as ‘ experimental alcoholism ’, these observations seem to indicate that a ‘ craving ’ for alcohol may have a physical basis besides the psychological origin which presumably is predominant in alcoholism.

“ For these reasons, it was thought necessary to place alcohol in a category of its own, intermediate between addiction-producing and habit-forming drugs.”

The discussion of this question by the present Committee also brings out the fact that, though many of the events observed in alcoholism are parallel to many of the phenomena observed in opiate addiction, many important differences exist. The Committee feels, however, that recent evidence makes it appear that there is more resemblance between the responses to the withdrawal of alcohol and of opiates than was previously realized.

It is now clear that, following discontinuation of alcohol after a prolonged period of very heavy drinking, severe withdrawal symptoms, which

¹ See *Wld Hlth Org. techn. Rep. Ser.* 1954, 84, 10.

in a limited proportion of cases include convulsions or delirium, or both, may occur. These latter symptoms are more dangerous to the life of the individual than are any of the manifestations of withdrawal of morphine. When serious symptoms follow the withdrawal of alcohol they persist almost as long as do those following the withdrawal of opiates.

Even though a marked degree of physical dependence on alcohol, as manifested by withdrawal symptoms, can develop, it occurs only after a prolonged period of very heavy drinking. In contrast, a considerable degree of physical dependence on morphine can appear after administration of therapeutic doses over a period of 21 to 30 days. Moreover, the attitude of both the individual and society to the use of alcoholic drink is entirely different from their attitude to the use of opiates. The first is widely on sale; it is consumed in public, and its use is generally considered to be normal and is even sometimes encouraged. The sale of opiates, on the contrary, is controlled or clandestine, and they are generally administered by injection. Their use by the addict is always concealed. This use for non-medical purposes is generally considered extremely abnormal and reprehensible. Feelings of guilt for use and condemnation by society are therefore far greater in the second case than in the first. Finally, it is a well-known clinical fact that, although treatment of alcoholics is far from achieving satisfactory and lasting results in every case, the proportion of such results is much greater than among opiate addicts.

These observations all lead to the conclusion that, although there exist so many clinical and biochemical analogies between alcoholism and opiate addiction, one must make a clear distinction between them, both in medical practice and in the medico-social or legislative measures concerning them.

In view of the preceding considerations, there is no need to modify the opinion quoted above that the position of alcohol as a drug is intermediate between an addiction-producing and a habit-forming drug.

7. Borderline Problems

Instead of the extension of the term "alcoholism" to all forms of excessive drinking and the creation of new terminology to serve the necessary distinctions, it would seem preferable to talk about "the problems of alcohol" and to regard "alcoholism" as one of these problems.

In this respect, if the "inability to stop" and the "loss of control" are two criteria that may serve to distinguish true alcoholism, it is necessary to consider a marginal zone between certain very prevalent forms of excessive drinking on the one hand and alcoholism on the other.

In the countries where wine and beer are the most used of alcoholic beverages, the cases where "loss of control" leads the drinker to severe drunkenness are relatively rare.

Furthermore, besides the cases where "inability to stop" in the face of dangerous consequences indicates alcoholism, it is possible that certain rates of ingestion considered as "normal" may affect health. Some statistical studies indicate that high mortality rates for adult males from conditions not directly related to alcohol may be associated with the high level of wine consumption. This is an example of what may be called a problem of alcohol which cannot be included in the term "alcoholism".

On the other hand, in the regions where distilled alcoholic beverages are prevalent, there exists a group of occasional drinkers who may cause problems which may greatly exceed those arising from other forms of drinking, through either numerical preponderance or the nature of the damage, or both.

The problems caused by occasional excessive drinking may include violence (which may occur among steady excessive symptomatic drinkers too, though this is by no means characteristic of them), industrial and traffic accidents, and finally absenteeism and curtailment of the family budget.

8. Classification and Public-Health Implications of Disorders Induced by Alcohol

The Committee proposes the following classification of disorders induced by the heavy use of alcoholic beverages :

1. Disorders associated with the pharmacological action of alcohol
 - 1.1 Acute intoxication
 - 1.1.1 Simple
 - 1.1.2 Atypical (with pathological reactions)
 - 1.2 Constant, or frequently recurrent, excessive use
 - 1.2.1 Secondary to psychoses, post-concussion states, or oligophrenia
 - 1.2.2 Secondary to social, psychological, or physical stress
 - 1.2.3 Established (essential) alcoholism (characterized by inability to stop and/or loss of control)

- 1.3 Disorders associated with physical dependence on alcohol
 - 1.3.1 Tremulous states
 - 1.3.2 Convulsive states
 - 1.3.3 Hallucinatory and/or delirious states
2. Disorders frequently associated with prolonged heavy use of alcoholic beverages
 - 2.1 Nutritional deficiencies (e.g., liver cirrhosis, polyneuritis, pellagra)
 - 2.2 Conditions of doubtful etiology (e.g., Korsakoff syndrome, some forms of delirium, paranoid states)
 - 2.3 Chronic intoxications by substances other than ethanol present in certain alcoholic beverages (e.g., absinthism) and by use of non-beverage alcohols (e.g., methylism).

It is necessary to emphasize that, although the preceding items are disorders in the medical sense, they cannot be considered as nosological entities, and that overlapping or transitions from one form to the other are possible and commonly occur. However, they correspond to different diagnostic criteria and they also have different practical consequences as regards the medico-social problems involved.

The public-health action called for by each of these categories is quite different.

Acute intoxication provokes many accidents, both in traffic and in industry. It may precipitate criminal behaviour or lead to increased exposure to venereal disease. Acute intoxication with pathological reactions may lead to criminal violence and to other problems associated with acute psychiatric disorders.

In excessive drinking which is secondary to a psychotic disorder, the latter obviously calls for treatment. Where excessive drinking is secondary to current stress, the action necessary will obviously be dependent on the nature of the stress. It may range from social action where the stress is predominantly of a social nature to psychotherapy in cases where the stress is of a psychological nature, but must in all cases be accompanied by action devoted to arresting the drinking process itself. Alcoholism, as the Committee has defined it (see section 4), calls for widespread action on the part of the health authorities on lines already laid down in two previous reports of the Alcoholism Sub-Committee,¹ in which particular

¹ *Wld Hlth Org. techn. Rep. Ser.* 1951, 42; 1952, 48

emphasis is laid on the establishment of out-patient services for early treatment. The means of preventing nutritional deficiencies is self-evident, and their appearance as complications of alcohol use will be considerably influenced by the general state of nutrition of the population as a whole.

The Committee is not unmindful of the importance of legal and social measures in the prevention of alcoholism and allied problems and wishes to reiterate the opinion expressed in the first report of the Alcoholism Subcommittee :

“Although the preparation of such legislation may be no part of the activities of public-health services, they have a duty to advise the authorities responsible for such legislation on the public-health aspects of the problem . . .”¹

¹ *Wld Hlth Org. techn. Rep. Ser.* 1951, 42, 4

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