THE PROBLEM OF ALCOHOLISM IN SINGAPORE*

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and

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INTRODUCTION

Alcoholism is a serious world health problem affecting person, family and community health. Wherever alcohol is consumed in appreciable quantities alcoholism has been reported, the incidence increasing with the amount consumed. Singapore is not an exception.

How does one recognise the problem drinker and the alcoholic? Does social drinking ever cross over to pathological drinking?

The purpose of this paper is:

1. To show that there is a problem of alcoholism in Singapore.
2. To draw a profile of the alcoholic in Singapore.
3. To briefly discuss the problem and how to meet it.

1. Drinking Rates of a Population

There are several ways of estimating the drinking rates of a population.

(*a*) Community surveys.

(*b*) Prospective community survey over a period.

(*c*) Questionnaires to individuals and institutions concerned with alcoholism in the community.

(*d*) Mortality data from cirrhosis.

We have not attempted community surveys or prospective community surveys for obvious reasons. They would require larger resources than we have at present. It has been found elsewhere that questionnaires to individuals and institutions do not yield accurate data. However, this was attempted and questionnaires were sent to the Medical Officer in-charge of the Local Prison, the Superintendent of Traffic Police and to the various hospitals.

Conviction from drunkeness and disorderly behaviour depends on police attitude and detection, hence does not reflect a true incidence. Fig. 1 shows those convicted and admitted to prison because of inability to pay the fine. Similarly, the incidence of road traffic accidents due to the influence of alcohol must depend on the method of detection of alcohol ingestion.

It was therefore decided to conduct a pilot survey in the Medical Unit II for six months from November 1968 to April 1969 to assess the incidence and manifestations of alcoholism among the in-patient group and to draw a profile of the alcoholic. The result of this survey forms the basis of this paper.

The Jellinek formula takes the death rate from Cirrhosis (complicated alcoholism) and multiplies it by a factor of four to produce the total incidence of alcoholism at a particular time in a particular population sample. There is a close relation between the Jellinek method and other independent methods (Table I). The Singapore incidence of alcoholism is, as expected, quite low—450 per 100,000 measured by the Jellinek formula. This is probably due to the fact that not all deaths from cirrhosis are registered as such.

THE SIZE OF THE PROBLEM

An idea of the size of the problem can be obtained indirectly from:

(i) The drinking habits of the population and the sale of liquor.

(ii) The number of places where liquor is obtainable legally and illegally.

(iii) The number of "regulars" who attend such places.

(iv) The combined experience of alcoholics themselves.

The Straits Times Readership Survey for the period 1969/70 included a random sample size of 1,991 Singaporeans above the age of 12 that was weighted by sex, race and age in a total sample of 5,000, the rest being West Malaysians.

It showed that 1 in 10 Chinese and Indians above the age of 12 drink as compared with 1 in 2 of the miscellaneous group, comprising mainly of Europeans. There is a significant increase in

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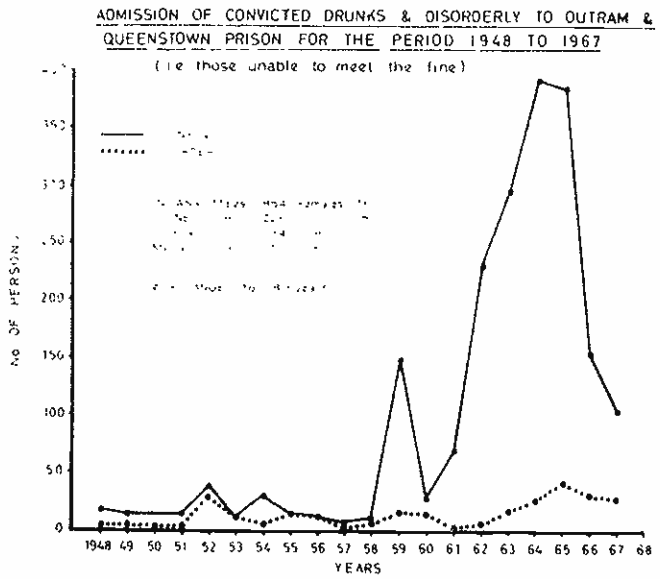

Fig. 1.

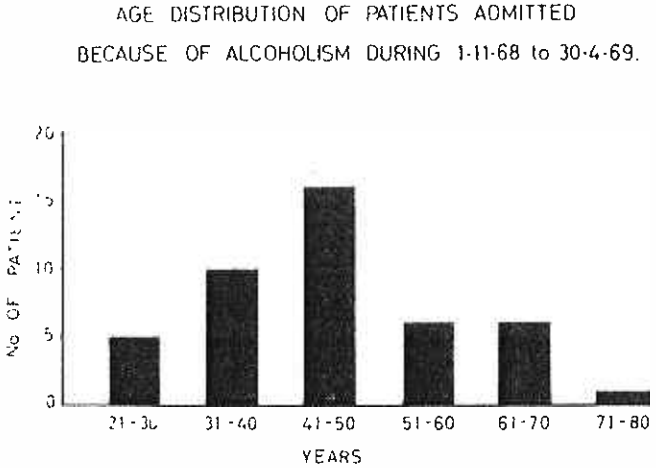

Fig. 2.

TABLE I

PREVALENCE OF ALCOHOLISM PER 100,000 POPULATION AGED 20 YEARS OR MORE

Place	Year	Jellinek Method	Independent Method	Difference
England and Wales	1948 1960 1963	1,100	865	−21·4
Finland	1951 1957	1,120	1,330	+18·8
Ontario, Canada	1951	1,600	1,600	0·0
	1961	2,460	2,375	− 3·5
Denmark	1948	1,950	1,750	+10·3
Chile	1950 1953	3,610	4,150	+15·0
Michigan, U.S.A.	1953 1955	4,490	4,300	− 4·2
France	1951	5,200	7,300	+40·4
Illinois, U.S.A.	1953	5,250	5,250	0·0
Singapore	1965 1968	488*	500*	-

* Approximate.

TABLE II

SEX, ETHNIC GROUP AND RELIGIOUS DENOMINATION OF REFERRALS

Sex		Ethnic Group		Religion	
Males	39 (1,521)	Indians (includes		Hindu	17
Females	5 (1,169)	Pakistanis and		Buddhist	15
		Ceylonese)	27 (353)	Christian	5
		Chinese	16 (2,014)	Muslim	4
		Malay	0 (214)	Sikh	2
		Others (includes all other races)	1 (109)	Nil	1

Figures in brackets show total number of patients admitted, i.e.

7·6% of the Indian patients,
0·9% of 'Other' patients, in this case the patient was English,
0·7% of the Chinese patient,

were referred for the Alcoholic survey.

TABLE III

TYPES OF DRINKERS

Problem Drinkers	4
Alcohol Addicts	9
Chronic Alcohol Addicts	24
Arrested Alcoholism	3*

* Diagnosis of these three is liver cirrhosis.

One has stopped drinking for 8 years, another for 1 year and the third for 4 months. All have histories of drinking for over 30 years.

TABLE IV

DIAGNOSIS AS STATED ON THE CASE SHEET

Liver Cirrhosis	12
Chronic Alcoholism:	5
With Bleeding G.I. Tract	1
Infective Hepatitis	2
Subacute Combined Degeneration	1
Epilepsy	1
Alcoholic Intoxication	2
Alcoholic Hepatitis	2
Heart Disease:	
C.C.F. with Anaemia	1
Isch. H. D.	2
Peripheral Neuropathy	2
Delirium Tremens	2
Haemolytic Jaundice	1
Chest Pain	1
Drunk with Hysteria	1
Anxiety State	1
Pyelonephritis	1
Carcinoma Oesophagus	1
Attempted Suicide	1
TOTAL	40

TABLE V

AN ATTEMPT AT ASSESSMENT OF THE TYPES OF ALCOHOLISM PRESENTED IN THIS SURVEY

Alpha Alcoholism	4
Beta Alcoholism	0
Gamma Alcoholism	27
Delta Alcoholism	6

TABLE VI

Consumption of Alcoholic Drinks by Sex Group

Population Estimates	Male	Female	Total
	668,000	638,000	1,306,000
Type of Alcohol	**Incidence of Consumption**		
	%	%	%
Beer	19	5	10
Stout	5	3	4
Whisky	5	1	2
Brandy	7	3	4
Other Alcohol	1	—	1

alcohol intake with increase in income from 5% in the $151/- to $300/- group, to 11% in the $301/- to $500/- group, to 23% in the $501/- to $1,000/- group, to 34% for those earning above $1,000/-. Agewise, the drinking incidence is 2% below the age of 20 and 9% above it. The dealers estimate that there is a 4-6% annual increase in the rate of alcohol consumption in both Singapore and Malaysia.

In Singapore, alcohol is obtainable at 719 hotels, bars and beer houses, 79 samsu shops, 6 government toddy shops, and approximately 40 illicit places where "lallang tani" is sold. Since every place selling alcohol has about 30 regular customers (according to information from Alcoholic Anonymous members) there are probably 30,000 "regulars" who frequent such places. It is estimated that among those who drink, the incidence of problem drinkers is higher than 1 in 16, possibly 1 in 10 or higher. Therefore if 10% of them have problems with alcohol there would be about 3,000 problem drinkers in Singapore. Taking the population at risk as being over the age of 15, the size of this population is approximately 50% or 1 million. The incidence of problem drinkers of which alcoholics form the great majority is 300 per 100,000 by this rather indirect method of estimation. Another method of estimating the incidence of alcoholism is to extrapolate from the known drinking population. Based on figures supplied by the Straits Times Readership Survey (Table VI) it is concluded that the incidence of problem drinking ranges from 300 to 1,300 per 100,000 of population at risk.

METHOD OF IN-PATIENT SURVEY

This was carried out in Medical Unit II, Outram Road General Hospital. There are five wards in this Unit, three male and two female. On an average it is estimated that the number of patients admitted to these wards is about 466 per month.

The Survey was conducted over a period of six months from 1.11.68 to 30.4.69. During this period any patient admitted with a history of excessive drinking, or suffering from one of the complicating diseases of alcoholism or admitted because of alcoholic intoxication was referred to the Medical Social Worker.

Various studies on alcoholism conducted in the United Kingdom, United States and Canada, were studied with a view to ascertaining the required criteria by which a person could be classified an alcoholic, so as to differentiate between the alcoholic and the inebriate. The former is a compulsive drinker, he is addicted to drink; the latter is a habitual drinker who can break his habit if he wishes.

WHO defines alcoholism as:

"A chronic disease, or disorder of behaviour, characterized by the repeated drinking of alcoholic beverages to an extent that exceeds customary dietary use or ordinary compliance with the social drinking custom of the community, and that interferes with the drinkers' health, interpersonal relations or economic functioning".

A definition of the alcoholic as given by Alcoholism and Drug Addiction Research Foundation, Ontario, Canada:

"The alcoholic is a person who has become physically dependent upon the presence of alcohol in his system, or has developed psychological need for its anaesthetic effect, or both".

It was noted that some research writers deliberately refrained from using the term "Alcoholic" so as to avoid getting involved in the question "What is an Alcoholic?". Some used the term "Problem Drinker" instead of Alcoholic. By the end of our Survey this did not appear to be that important as the majority of referrals had obvious symptoms of alcoholism, that is, the patient was suffering some degree of disability in his physical, emotional, or social spheres of living.

Not all alcoholics present the same picture of addiction, since there are different stages in the process of addiction. For the purpose of this study and in order to have some idea of the intensity dimension of the problem it seemed useful to make a distinction between such categories as:

(*a*) Problem drinkers.

(*b*) Alcohol addicts.

(*c*) Chronic alcohol addicts.

By the end of the Survey it was found necessary to add a fourth category.

(*d*) Arrested alcoholism i.e. those alcoholics who for some time now have maintained their sobriety. There were three such cases. They stopped drinking due to ill health, (diagnosis on case sheet of these three patients –cirrhosis of liver).

DEFINITIONS FOR THE PURPOSE OF THIS STUDY

A. The problem drinker is that individual who frequently indulges in alcoholic beverages beyond the limits of the normal* drinker[3]. Though he is still in control of his drinking, it has reached such proportions that it is beginning to be a matter of concern to his family, employers, friends or associates.

Before the patient was classified as a problem drinker there was evidence of:

(*a*) Excessive drinking of a fairly repetitive nature.

(*b*) As a consequence of such drinking, an upset in domestic equilibrium; or a material reduction in work efficiency and dependability.

He may or may not be suffering from one of the diseases of alcoholism.

B. The alcohol addict is defined as a person who has an uncontrollable craving for alcohol and is unable to break with the drinking habit.

Before the patient was classified as an alcoholic addict there was evidence of:

(*a*) An irresistable craving for alcohol.

(*b*) An inability to break with the drinking habit due to addiction.

(*c*) Deterioration of interpersonal relations as a consequence of his inability to stop drinking.

Loss of control of his drinking, whereby the patient having taken one drink found himself compelled to continue drinking until he was in a state of complete intoxication, may or may not be present.

He may or may not be suffering from one of the diseases of alcoholism.

C. The "chronic alcohol addict" is defined as a person who had indulged excessively in alcoholic beverages for a prolonged period of time.

(*a*) He has been having a high daily alcohol intake or has been drinking in an uncontrolled way, for a prolonged period of time, that is, 10 years or more.

(*b*) As a consequence of such drinking is suffering or has suffered from one or more of

* The normal drinker is a person who uses alcoholic beverages moderately, as a condiment, to satisfy thirst, for their milder sedative effects, or in their occasional social use. Alcohol constitutes neither a necessary nor a considerable item in his budget.

the complicating diseases of alcoholism, such as liver cirrhosis, delirium tremens, avitaminosis, peripheral neuropathy, brain damage and so forth.

The alcoholic often tries to rationalise his drinking pattern and may not give correct answers. Hence in this study the patient and members of his family or associates (where such were available) were interviewed to gain as much information as possible to make a suitable assessment. The John Hopkins Questionnaire Form (twenty test questions) was used as a guide to assess whether a patient was an alcoholic or not. Inquiry was made of the patient's experience of alcoholic amnesias and of symptoms usually taken as indicative of chemical dependance such as morning shakes and the need for a drink first thing in the morning.

RESULTS

During the six months there were 44 referrals. Total number of admissions during this period was 2,801 (this figure includes re-admissions). Excluding re-admission the total number of patients admitted was 2,690. Table II gives the sex, ethnic group and religious background of the patients.

Though Malays were not represented here, we know that alcoholism exists among them, because Malay patients are being treated in the Unit for this disease. For many people it is a hidden malady, and the impression here is that the Malays make use of hospital facilities only when the patient's care can no longer be managed at home.

Of the 44 patients referred, two Indians died without being interviewed. However medical diagnosis and information from their relatives would classify them as chronic alcoholics.

Another Indian who was picked up by the police and admitted to the ward, absconded before he was interviewed. The medical diagnosis on the case sheet was "Alcoholic, hyperglycaemia".

The fourth, a Chinese woman of 21, was not classified under any of the three categories. She was admitted to the ward because she passed out after taking alcoholic beverages at home with her parents and friends. She started drinking at the age of 17 and only drank on festive occasions. Therefore this study is based on 40 alcoholic patients. Table III classifies the types of drinkers identified in the study.

It is interesting to note the clinical diagnosis on the case sheet (See Table IV). Only 10 of the 40 patients were labelled as chronic alcoholics. Six of the 40 alcoholics had multiple addiction, usually to opium. Two of them were addicted to morphine injection and another to marihauna.

Ten per cent (4 cases) had actually been treated at the main psychiatric hospital in Singapore while two persons had been treated at the Opium Treatment Centre.

23 patients still maintained relationship with the family, 8 patients were alone in Singapore, 5 patients had strained family relationship and 4 were either deserted by or had deserted the family.

The majority of the cases were in the 4th and 5th decades of life (Fig. 2).

A point of interest here is that 50% of these patients started to drink in their teens. Dr. E. M. Jellinek, as World Health Organization Consultant on Alcoholism, testified in 1955 before the Bracken Commission in Manitoba, that about one-third of the alcoholics in the United States had their initial drinking experience between the ages of 14 and 18. Clinicians, with the Alcoholism and Drug Addiction Research Foundation, Ontario, also report that the drinking histories of many adult alcoholics reveal that they began drinking in their teens.

2. The Profile of the Singapore Alcoholic

The smallness of our in-patient study does not allow a true picture of the problem drinker in Singapore. However, the vast majority (27 cases) of the 40 cases are classified as Gamma Alcoholism (Table V). This method of classification according to Jellinek[4, 1] correlates well with our classification in which 24 of the 40 were found to be Chronic Alcohol Addicts. The characteristic of the Gamma Alcoholic is that control of the drinking behaviour has been lost leading to a true state of addiction. These patients possess a moderate to high degree of psychological vulnerability. They usually begin as Alpha Alcoholics and with the passage of time and increasing involvement in drinking, eventually reach the state where their drinking becomes out of control.

Alpha Alcoholism, represented by 4 cases in the series, comprises a group who use alcohol specifically to deal with symptoms of another problem. These symptoms may be psychological in origin and represent a variety of problems including anxiety, tension, boredom, depression, confusion and perhaps most commonly of all, the large group of disturbances we call "character disorder". An Alpha Alcoholic may also take alcohol to relieve any chronic discomfort due to organic disability. Similarly, he may take alcohol to relieve social discomfort, particularly if he is

one of those unfortunate persons who is chronically misplaced or displaced. An Alpha Alcoholic need not develop any physiological dependence or addiction but his vulnerability psychologically is very high; hence the chance of habitual alcoholism is great.

Beta Alcoholism is determined by the drinking custom of the individual, society or social group. The Beta Alcoholic may show no signs of intoxication at any point but eventually some signs of liver or nerve damage emerges. There is, therefore, a high degree of physical involvement with resulting damage simply related to the prolonged effect of alcohol and malnutrition. There may be almost no psychological vulnerability. We were unable to classify any of the 40 cases as Beta Alcoholism.

Delta Alcoholism may be considered as an extension of Beta Alcoholism. The Delta Alcoholic has had a prolonged pattern of high, daily alcoholic intake which has never been a cause of great distress. Intoxication has not been habitual nor has there been any apparent impairment of function. However, after several years, the individual begins to react in a somewhat different manner. Instead of the usual pleasure, alcohol tends to bring about a state of irritability and aggressiveness. The actual tolerance to alcohol seems to decrease. The most interesting phenomenon is the complete inability to stop drinking without extreme distress. In other words, there will be withdrawal symptoms when alcohol is discontinued. In some instances, these symptoms are extraordinarily severe with gross tremors, gastrointestinal upset, dehydration, psychomotor restlessness, sleeplessness and even hallucination and fits (delirium tremens). Delta Alcoholics may also have an advanced degree of organic disturbance including cirrhosis, peripheral neuropathy and chronic brain damage. There were six Delta Alcoholics in our group.

Alpha Alcoholism cannot be properly regarded as a disease but as a symptom of an underlying disorder and alcohol is used as a convenient crutch. Beta Alcoholism is seen as neither a disease nor a symptom of a disease, but a pattern of heavy social drinking. The reason we had none of this group in our study is probably because they do not need hospital treatment as yet. Gamma and Delta Alcoholism could conform to the chronic alcoholic addiction and alcoholic addiction in our study-which totalled 33 persons in the group.

3. Is Alcoholism a Growing Problem?

The axiom is that whenever alcohol is consumed in appreciable quantities, alcoholism has been reported, its incidence increasing with the rate of consumption. Is Singapore an exception? The Business Times Supplement of Straits Times reported in 1969 that the hard liquor market in Singapore and Malaysia "now rises to $70 million a year and is growing fast". Based on retained imports in the four year period to 1968, the annual consumption of imported liquor only, averaged some $27 million c.i.f. but actual consumer expenditure works out to more than $70 million, half of which was spent in Singapore. These figures do not include beer, local samsu, toddy, Chinese wine and illicit liquor. The report estimates that "8% of the two countries' combined population above the age of 12 are liquor consumers of whom about half are regulars". The report also found that the liquor drinking incidence increases with income. The report based on the Straits Times Readership Survey of 5,000 readers in 1969/70 indicated that 10% of Chinese and Indians above the age of 12 drink as compared to 50% of the Europeans. At the estimated rate of increase in drinking, it will take less than 10 years for the incidence of alcohol drinking in this population to reach parity with Europeans.

TREATMENT AND REHABILITATION

The scope of the paper only permits a brief mention of the main aspects of treatment. As Table IV showed the alcoholic could and does present as an emergency, for example: (*a*) alcoholic coma; (*b*) delirium tremens or acute alcoholic excitement; (*c*) acute psychotic episode; (*d*) or an alcohol complication of his debilitated state, that is, pneumonia, congestive heart failure, acute pancreatitis, haematemesis from ruptured oesophageal varices, liver failure, beri-beri. Because of the poor nutrition and low reserve, the alcoholic is unable to recover as well as he should without prolonged convalescence. The facilities for treatment of the chronic alcoholic addict in Singapore are not satisfactory. He cannot be kept in the acute medical ward for any length of time and often resumes his habit again on discharge. In many cases, alcoholics are not suitable for prolonged hospitalisation in psychiatric hospitals. In other countries, many National Councils on Alcoholism, set up "half-way" houses for the recovering alcoholics who are at the same time under intensive treatment.

For many years now, a small Alcoholic Clinic has been conducted by one of us in the University Department of Clinical Medicine. From the start we have worked in close collaboration with Alcoholics Anonymous. We have not found Antabuse (tetraethylthiuram disulphide) as effec-

tive as the tranquillizing drugs such as chlorpromazine, chlordiazepoxide and diazepam. The main thing is to treat the alcoholic as a sick person who needs more than drug treatment. Besides regular attention at the clinic, he may need hospitalisation, counselling, referral to the Medical Social Worker, A.A. or psychiatrist. There are many disappointments but the successes have convinced us that we should develop a community approach. Alcoholics Anonymous in Singapore runs three meetings a week with an average attendance of 5 to 10.

The main difficulty we face lies in the traditional social stigma which stresses the moral weakness of the alcoholic. The belief that nothing can be done for the habitual drinker has been proved false in our experience. The success achieved by the Alcoholics Anonymous Movement and in other Alcoholic Centres or Clinics throughout the world clearly show that the alcoholic can be helped and completely rehabilitated. With help and treatment some learn to live without alcohol. Some continue to have recurrent relapses in spite of help given. Many show improvement in terms of stability of employment and responsibility to family and community.

It has been shown that the alcoholic addict has a different cellular response to alcohol. Thus the total approach to alcoholism must necessarily incorporate public health, community medicine, the hospital and clinic, the special skills of the Medical Social Worker, the psychiatrist and physician, as well as the research worker.

PREVENTION

The preventive aspect of Alcoholism requires a change in attitudes of the medical profession, courts and law enforcement officers, family and public in general towards alcoholics.

Recognition of the illness factor in Alcoholism will help people to understand that the Alcoholic's difficult behaviour is a symptom of his illness. He does not deliberately choose to drink excessively, inspite of repeated threats not to do so; rather he is unable to control his drinking and is not responsible for his illness.

It is only when popular misconceptions are eliminated that attitudes will change.

More information about Alcoholism should be included in the teaching curricula of the helping professions.

Public information programmes should be aimed at giving the public some understanding of the ill effects of the excessive use of Alcohol. Providing information on Alcoholism in the hope that the Alcoholic himself, his family, employer or friends may recognise the Alcoholic's problem and seek treatment. Such educational programmes will also help to remove the stigma surrounding Alcoholism.

Early detection and treatment will prevent organic damage, and unhealthy relationships within the family which leads to broken homes. These patients respond more readily to treatment than chronic Alcoholics.

Finally, true prevention depends upon the discovery of those factors which cause Alcoholism to develop in the individual. Only when these facts are known can appropriate measures be taken to effect a cure and prevent the disease. However since acceptance of drinking affects overall levels of consumption, any measure that will lower the acceptance of drinking is desirable from a health point of view.

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