DETECTION OF ALCOHOLISM AMONG PSYCHIATRIC INPATIENTS

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SUMMARY

One hundred and eighty four consecutive admissions to male psychiatric open and closed wards were examined for evidence of alcoholism. Michigan Alcoholism Screening Test (MAST) was used for this purpose. The present study shows a prevalence rate of alcohol users to be 41.3 per cent. Nineteen per cent could be called alcoholic. MAST correlated well with Spitzer’s RDC criteria for alcoholism. The family history of non-users was significantly different from that of the alcohol users. The findings are discussed in the light of existing literature both in India and in the West.

Man has been familiar with alcohol and its effects for thousands of years. Recently there has been greater appreciation of the full extent of the damage that can be caused by alcohol. Effective detection of any disease requires agreement upon valid and practical diagnostic criteria. A number of definitions and classifications of alcoholism are now in use and new ones continue to appear. Some have ignored the concept of alcoholism and divided the subjects into light, medium and heavy drinkers operationally. Several definitions are mentioned for those who are alcoholics. Excellent studies on alcohol use have frequently run into difficulty due to individualized descriptions, definitions and diagnostic signs and symptoms of their studied population.

The Michigan Alcoholism Screening Test (MAST) was devised by Selzer (1971), to provide a convenient, quantifiable and structured interview schedule for detection of alcoholism. The MAST consists of 25 questions, many of which have also been used by other investigators on surveys on alcoholism. Some of the questions are sufficiently neutral so that persons reluctant to identify themselves as problem drinkers may reveal their alcoholic affliction with ease. Questions (total 17) that are highly discriminative are given a value of two points, and others are given a one point value. Three questions considered to be diagnostic, are given five points. Score 0-3 means non alcoholic 4 suggests alcoholism or borderline, 5-50=alcoholic.

Numerous reports of its (MAST) use in diverse populations and the generally encouraging reviews of its utility as an alcoholism detection technique suggests that MAST is an efficient and economical screening device and has withstood the test of time (Knox, 1976, Knox, 1978 Miller, 1976, Landeen et al., 1977, Zung 1980, Paton & Saunders 1981). Later a brief version of MAST has been developed by Pokerny et al. (1972) and the authors report that the correlation between brief and long version is high. Among various other diagnostic tools National Council on Alcoholism (NCA) US Govt. (1972) & Research Diagnostic Criteria (RDC) developed by Spitzer et al. (1978) also have specified criteria for the diagnosis of alcoholism.

We became interested in using MAST as a device to detect alcoholism among psychiatric patients admitted with us. Most admissions to our institution occur for treatment of illness other than alcoholism, and the therapeutic focus is often diverted from alcohol related problems. However psychiatric hospitals, even without a specialised
alcoholic ward are a major source for therapeutic intervention for alcohol related problems. We, therefore, studied the occurrence, identification and relevance of screening questions for diagnosis of alcoholism among our patients.

MATERIAL & METHODS

One hundred and ninety-six consecutive new male patients admitted to three male closed wards and three male open wards were interviewed. Majority of the patients are admitted to closed ward for the management of psychiatric emergencies. The questionnaire contained all the questions from MAST except Q. No. 9., which states "Have you ever attended a meeting of Alcoholic Anonymous?" This particular question was not relevant to most of our patients. In addition we collected information regarding socio-demographic variables. The questionnaire also had items regarding family history as specified by N.C.A., U.S.A. (1972) and questions which enabled us to make a R.D.G. diagnosis (Spitzer et al., 1978). The questionnaire was scored within a week after admission. The patients' charts were reviewed and the admission diagnoses were noted as per ICD 9, which is universally followed in the hospital.

RESULTS

Twelve persons (6%) could not be interviewed for various reasons. Hence the results refer to 184 patients only.

As per MAST scores obtained (Table 1) 35 persons could be called alcoholics (score 5 and above), 41 persons could be called non-alcoholic (social drinkers) (score 0-3), 108 persons had never touched alcohol in their life time (non-users). Hence the prevalence of alcohol users and alcoholics in the sample are 41.3 per cent and 19 per cent respectively. The results of the demographic variables (Table 1), indicate that alcoholics belonged to the older age groups (p<.001). As per educational and occupational status the three groups were similar. There were a greater number of married persons among the alcoholics (p<.05).

Details regarding alcohol use are shown in Table 2. Twenty-nine persons (82.8%)
TABLE NO. 2. Details Regarding Alcohol Use

| Alcoholics | Social drinkers |
|------------|-----------------|
| No. 35     | (No. 41)        |

1. Last drink taken
- Less than 7 days: 29 (35), 3 (3)
- 7 days-1 month: 6 (35), 16 (35)
- More than 1 month: — (35), 22 (35)

$X^2=47.49, p<.001$

2. Did you drink in the last 12 months?
- Yes: 35 (35), 30 (35)
- No: 0 (35), 11 (35)

$X^2=10.97, p<.001$

3. Usual consumption in ml. of absolute alcohol
   - (in one day) Mean=107.5 (35), Mean=90.08 (35)
   - SD=62.6 (35), SD=48.26 (35)

4. Frequency of use
   - a. Several times a day to more than once a week: 35 (35), 0 (35)
   - b. Once a week—once a month: 0 (35), 25 (35)
   - c. Less than once a month: 0 (35), 16 (35)

$X^2=76.00, p<.001$

5. Age when began drinking
   - 16-25 years: 23 (65.7%) (35), 30 (73.1%) (35)
   - 25+: 12 (35), 11 (35)

$X^2=0.49, N.S.$

6. Has there ever been a period when you drank too much
   - Yes: 35 (35), 7 (35)
   - No: 0 (35), 34 (35)

$X^2=52.32, p<.001$

7. Have you ever gone bender
   - Yes: 32 (35), 1 (35)
   - No: 3 (35), 40 (35)

$X^2=60.86, p<.001$

8. Fits after stopping of drinking (in a non-epileptic)
   - Yes: 3 (35), 0 (35)
   - No: 32 (35), 41 (35)

Fisher's Prob. Test, N. S.

Among the alcoholics had consumed alcohol in the last 7 days compared to only 3 persons (7.3%) among the social drinkers ($p<.001$). The amount of consumption was obtained from subjective report of usual alcohol intake in one single day. This figure was subsequently converted to volume of absolute alcohol. Mean consumption of alcohol in one single day among the alcoholics was 107.48 ml (volume of absolute alcohol) range being 31.5 ml—260 ml. Sixteen social drinkers drank less often than a month. Of those social drinkers who drank at least once a month, the mean consumption was 90.08 ml (absolute alcohol) per month range being 28 ml—224 ml. Thirty persons (73.1%) among the social drinkers did drink at least once in the past 12 months.

There was no statistically significant difference between the two groups as regards their age of initiation to drinking. As expected alcoholics were consuming alcohol almost daily. Greater number of alcoholics felt that there had been a period when they had drunk too much as compared to social drinkers ($p<.001$). Thirty-two persons (91.4%) among the alcoholics reported that they had definitely gone bender—i.e. drinking steadily for 3 or more days, more than one fifth of whisky daily or 24 bottles of beer or 3 bottles of wine, which occurred 3 or more times, when compared with social drinkers ($p<.001$). There was no excess of withdrawal seizures among the alcoholics.

FAMILY HISTORY

A greater number of alcoholics had family h/o alcoholism, sociopathy and depression among first degree relatives, when compared to other two groups ($p<.001$). Strong moral overtones against alcohol use were more frequently present among the family members of non-users ($p<.001$). Fortunately there was no excess of alcoholism in the spouses in any of the groups. According to Spitzer's R.D.C. criteria 31 persons were definite alcoholics. Four per-
sons could be diagnosed as probable alcoholics (present) and 3 persons could be called probable past alcoholics. The figures closely resemble the figures obtained by MAST scores. Ten persons were admitted primarily due to alcoholism, as per diagnosis mentioned in the chart.

DISCUSSION

The epidemiological studies in India have shown that the prevalence of alcohol use was 74.1 per cent (Deb & Jindal, 1974), 49.6 per cent (Lai & Singh, 1978) and 58.3 per cent (Mohan et al., 1980) above the age of 15 years. Our sample not comparable to the general population shows smaller prevalence rate of 41.3 per cent. It will be of interest to remember that all the three studies were done in Northern India (Punjab), known as high alcohol use area. In our hospital (NIMHANS) 6.1% of all admissions in both the years (1980 Jan.-Dec., Jan-Dec-1981) were due to alcohol related problems.

Figures of general hospital population in U.S.A. reveal a prevalence of 14% (Landeen & Macpherson, 1978). Alcoholism and Alcoholic Psychosis accounted for a third of male first admissions in mental hospitals in U.S.A. in 1972, for 1/3 of all admissions in mental hospitals in France in 1974, half the admissions to Psychiatric Services in Argentina in 1975 (W.H.O. 1980). In U. K. the total number of admissions due to alcoholism has risen 25 times in past 25 years and accounts for over 10% of the total admission to psychiatric hospitals (Paton et al., 1981). From the field survey data it is apparent that in India as a whole the number of alcohol drinkers is low as compared to most Western countries. The similar low figures are seen also in hospital population.

Mean consumption in a single day among our alcoholic population was 107.5 ml. of absolute alcohol and for the social drinkers it was only 90 ml in a month (Table 2). According to Mohan et al. (1980) 49% of the current users were using 187-374 ml of alcohol at each drinking occasion, whereas 11.5% were consuming 375-560 ml of alcohol on each of the drinking occasions. The frequency of drinking as reported by them showed that majority of alcohol users were occasional social drinkers (frequency—less often than once a week to once a month or more), 5.6 per cent were regular users and 3.9 per cent could be called dependent (based on subjective expression of craving for alcohol). In another study 21% were heavy drinkers, i.e. consuming more than 3 ounces of absolute alcohol daily, according to quantity-frequency index (Lai & Singh, 1978).

Increased percentage of alcoholics in our population is obviously due to the fact that they are hospital population and do not represent the general population. Twenty three alcoholics (65.7%) and 30 (73.1%) of our social drinkers were initiated to alcohol by 25 years of age, which is again different from the figures reported by Mohan et al. (1980). In their series only 41.9% were initiated between 15-24 years of age. This is again probably because of our sample.

Our results show that the alcoholic users were different from the non-users as regards their family history. The alcoholics had more first degree relatives afflicted with alcoholism, sociopathy & depression (p<.001, Table 3). This may be a pointer towards the hereditary nature of the disease or could be an expression of familiarity with alcohol. MAST scores were further validated by very close agreement with RDC criteria for alcoholism and subjective reports of drinking too much and going bender. In one study from New Zealand Brown (1979) reported MAST scores obtained among hospitalized alcoholics, psychiatric inpatients, convicted drunken drivers and social drinkers. According to the author MAST appeared to be a valid instrument for use as had the ability to
TABLE NO. 3. Family History

| Family history | Alcoholics | Social Non-drinkers | Non-users |
|----------------|-----------|---------------------|-----------|
| (No=35)        | (No=41)   | (No=108)            |

1. Family h/o alcoholism, sociopathy & depression among first degree relative.

| Present | Absent |
|---------|--------|
| Alcoholics | 27 | 15 |
| Non-alcoholics | 8 | 26 |

\( \chi^2 = 19.95, \ p < 0.001 \)

2. Family h/o testotalism (strong moral overtones)

| Present | Absent |
|---------|--------|
| Alcoholics | 2 | 7 |
| Non-alcoholics | 33 | 34 |

\( \chi^2 = 41.50, \ p < 0.001 \)

3. h/o alcoholism in spouse

| Present | Absent | Not applicable |
|---------|--------|----------------|
| Alcoholics | 2 | 27 |
| Non-alcoholics | 0 | 16 |

R.D.C. Criteria

- Non alcoholics: 38
- Definite alcoholics: 31
- Probable alcoholics: Past = 4
  Present = 3

discriminate between alcoholics and problem drinkers. In conclusion, MAST appears to be a satisfactory tool to screen alcoholics and closely corresponds to RDC criteria for alcoholism.

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