A STUDY OF PROBLEM DRINKERS IN A GENERAL HOSPITAL

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ABSTRACT

349 new admissions in the wards of Medicine, General Surgery & Orthopedics in a general hospital were screened with MAST & AUDIT for problem use of alcohol. Problem drinking was present in 14.6% of the inpatients. The severity and the need for additional treatment were measured with Addiction Severity Index (ASI). Majority of the patients had problems in more than one area. Nevertheless, only one fourth of the patients were referred for psychiatric treatment. The findings indicate the need to develop services towards the recognition and referrals of the problem drinkers in general hospitals.

Key words: problem drinkers, alcohol, general hospital

The detection and study of alcohol misuse in general hospital environment is a neglected area (Chick, 1994). The excessive drinkers are at high risk of health problems and many of them are hospitalized for these problems either as a primary diagnosis or as a complicating factor. This may account for about 10% to 50% of the inpatient population in the general hospitals (Moore et al., 1989). Hospital doctors are in a unique position to recognize the problem drinkers and make the appropriate referrals. However, they often fail to do so due to several reasons (Clark, 1981; Rowland, 1987). Thus the underlying problem drinking is not brought to the fore and the additional treatment is not deemed necessary.

The domains of alcohol related problems can be measured in a graded fashion with a method such as the Addiction Severity Index (ASI) (McLellan et al., 1980). These measurements allow us to see addiction in degrees of severity across all the areas relevant to successful treatment. The data so generated may be useful in service development for the problem drinkers in the general hospital settings.

In this study we attempted to determine the rate of occurrence of problem drinking among the new admissions in three different inpatient wards. The severity and need of treatment of various alcohol related problems were assessed. We also found out the status of referral by the treating doctors.

MATERIAL & METHOD

The study was conducted in the department of Psychiatry, Kasturba Medical College, Manipal, Karnataka. All the male patients above 16 years of age admitted to the wards of Medicine, General Surgery and Orthopedics for the treatment of various physical problems were screened for the study. Subjects with the history of multiple drug abuse or dependence and those in critical physical state (in coma or on ventilator) were not screened.

The patients were approached within 48 hours of admission. An informed consent was taken for those who agreed to participate in the study. The patients were screened with the full version of Michigan Alcoholism Screening Test (MAST) (25 questions) wherein a score of >5 indicated problem drinking (Selzer, 1971). Those with MAST score < 5 were further screened with Alcohol Use Disorder Identification Test (AUDIT) (Saunders et al., 1993). A semi-structured interview schedule was used to collect information on the sociodemographic data and DSM-III-R criteria of alcohol dependence (A.P.A., 1987). Addiction Severity Index (ASI, fifth edition) (Fureman et al., 1990) was used to measure the various problems related to alcohol. In the ASI a brief structured interview is designed to provide information on six independent domains (Medical, Employment, Alcohol, Legal, Family and Psychiatric) over
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last thirty days. Severity in each area is defined as the need for additional treatment and is based on responses to subjective and objective questions. The severity rating is done on a 10 point (0-9) scale. The severity score of each patient could be reduced to a composite score following the mathematical formulae given in the manual. The composite score may be used for statistical calculations.

A pilot interview on ten alcoholics preceded the actual study. This was done in order to gain familiarity with the instructions for the interview and the scoring methods. However, no translated version was available and the interview was conducted from the original English version with the help of an interviewer. A feedback of this experience was submitted to Dr. Thomas McLellan (principal author of ASI) and a letter of approval to the method adopted was obtained.

Authors recognition of the problem drinkers was independent of the assessment made by the treating doctors. The referrals to the department of psychiatry for the treatment of alcoholism were separately noted.

RESULTS

363 new admissions in the wards of Medicine, General Surgery and Orthopedics were approached. Five of them were too ill for an interview and nine patients refused to participate in the study. MAST was administered to the remaining 349 subjects. Problem drinking was detected in 51 (14.6%) patients. DSM-III-R criteria of alcohol dependence were met by 36 (10.3%) patients. 13 of 289 screen negative patients (276 were teetotallers) were again screened with AUDIT. None was further identified as problem drinker (AUDIT score >8).

The mean age of the problem drinkers was around 45 years (45.7±13.2) and 90% of them were literate. More than 75% of them belonged to semi-skilled or unskilled profession. 85% of the subjects were Hindus and the rest were Christians. Most of them (85%) were married.

Table 1 shows the screening analysis and the referral status of the inpatients of the three different wards.

### Table 1

**SCREENING ANALYSIS OF THE INPATIENTS**

(N=349)

| Wards   | Number of the patients interviewed | Number of problem drinkers | Number of patients with alcohol dependence | Number of patients referred to psychiatry |
|---------|-----------------------------------|---------------------------|--------------------------------------------|------------------------------------------|
| Medicine | 156                               | 24 (15.4)                 | 18 (11.5)                                  | 10 (41.6)                                |
| General Surgery | 137                             | 22 (16)                   | 16 (11.7)                                  | 3 (13.5)                                 |
| Orthopedics  | 56                                | 5 (8.9)                   | 2 (3.6)                                    | 0                                        |
| Total     | 349                               | 51 (14.6)                 | 36 (10.3)                                  | 13 (25.5)                                |

(Figures in parenthesis indicate percentage)

The distribution of the patients (N=51) on the severity scale and the mean and S.D. of the composite scores in the six problem areas in ASI are shown in Table 2.

### Table 2

**DISTRIBUTION OF THE PROBLEM DRINKERS**

(N=51) **ON THE SEVERITY SCALE AND THE COMPOSITE SCORES IN ASI**

| AREAS IN ASI | NO PROBLEM (0-1) | MILD (2-3) | MODERATE (4-5) | SEVERE (6-9) | COMPOSITE SCORES |
|-------------|------------------|------------|----------------|--------------|------------------|
| Medical     | 1 (1.9)          | 2 (3.9)    | 3 (5.9)        | 45 (86.2)    | 0.84±0.23        |
| Employment  | 32 (62.7)        | 1 (1.9)    | 5 (9.8)        | 13 (25.5)    | 0.58±0.28        |
| Alcohol     | 2 (3.8)          | 2 (3.9)    | 5 (9.8)        | 42 (82.3)    | 0.47±2.6         |
| Legal       | 50 (98)          | 0          | 0              | 1 (1.9)      | 0.04±0.02        |
| Family      | 28 (54.9)        | 4 (7.8)    | 6 (11.8)       | 13 (25.5)    | 0.16±0.25        |
| Psychiatry  | 44 (86.3)        | 0          | 0              | 7 (13.7)     | 0.04±0.10        |

(Figures in parenthesis indicate percentage)

Patients with or without alcohol dependence were compared on ASI composite scores. Nonparametric Mann Whitney 'U' test was used. Significantly higher scores were observed only in the areas of alcohol use (p=0.0002) and family (p=0.0089) among those with alcohol dependence. Similar comparison
between the patients referred and those not referred for psychiatric intervention revealed significantly higher scores in the areas of alcohol use (p=0.213) and psychiatric problems (p=0.0025) among those referred for psychiatric treatment.

**DISCUSSION**

Two screening instruments (MAST and AUDIT) were used in this study to detect problem drinking among the inpatients. These instruments demonstrated high degree of sensitivity and specificity in previous studies viz. 90% & 80% respectively of MAST (Schuckit & Irwin, 1988) and 92% & 94% respectively of AUDIT (Saunders et al., 1993). Use of two instruments, however, increases the sensitivity of the screening procedure and decreases the number of false negative cases (Moore et al., 1989). This rationale was also followed in the present study.

The overall rate of problem drinking in our study sample was 14.6%, 10.3% of the problem drinkers also met the DSM-IIIR criteria of alcohol dependence (Table 1). Considerable variability in the prevalence of problem drinking is seen across the studies (19.5%, Jarman & Kellet, 1979; 58%, Masur et al., 1980; 12%, Taylor et al., 1986; 37.5% Rodriguez & Cami, 1988; 25% Saroja Ki & Kyaw, 1993) in the general hospitals. Some of these are comparable to our data while others are obviously higher.

We found a lower rate (8.9%) of alcoholism in the wards of Orthopedics than in those of Medicine (15.4%) and General Surgery (16%). This trend was also evident in the rates of alcohol dependence (Table 1). The rates of prevalence in the previous reports are 18% to 25% (Coleman, 1993) in the medical wards, 7.2% (Taylor et al., 1986) to 21% (Moore et al., 1989) in the wards of General Surgery and 20% (Rowland et al., 1987) to 34% (Chick et al., 1991) in the wards of Orthopedics. Evidently, most of these reports are comparable to our data while others are obviously higher.

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Several factors may account for the variability across the studies in the reported rates of occurrence of problem drinking in general hospitals-

1. **Location of the hospital**: Higher rates were found in the urban than in the rural hospitals (Moreira et al., 1986) and in those serving 'skid-row areas' (Jarman & Kellet, 1979).
2. **Type of the wards surveyed**: Rates were higher in the casualty or trauma wards than in the chronic wards (Taylor et al., 1986).
3. **Size of the sample surveyed**.
4. **Method of screening procedure used e.g. employing screening instruments (Moore et al., 1989) or measuring biochemical indices (Papoz et al., 1986) or computing amount of alcohol consumption (Masur et al., 1980) or analyzing blood alcohol levels (Holt et al., 1980). The sensitivity and specificity of each of these methods could influence the rates reported (May, 1993).

In our study 41.6% (10 out of 24) of the problem drinkers in the medical wards were referred by the treating physicians for psychiatric intervention. Similarly, the referral rate was 13.6% (3 out 22) and none from the wards of General Surgery and Orthopedics respectively (Table 1). Low detection and referral rate of alcoholics by the treating doctors are well reported (Rodriguez & Cami, 1988; Moore et al., 1989; Chick, 1994; McInnes & Powel, 1994) in the literature.

ASI is an instrument to measure various alcohol related problems. It has been shown to be reliable and valid among substance abusers applying for treatment (Fureman et al., 1990). Presence of moderate to severe degree of problems in any of the six areas in ASI indicates need of additional treatment. Thus, majority of our alcoholics were in need of treatment in medical (94%) and alcohol use (92%) areas. More than one third of the subjects had problems related to family (37%) and employment (35%) that necessitated additional help. Psychiatric problems were present in 13.7% and legal problems in 1.9% of the patients only. Moreover, higher mean composite scores were observed in medical, alcohol and legal areas (Table 2). It is clear that sizeable number of these subjects had problems in multiple areas in ASI. These problems had coexisted with the physical problems that led to the hospitalization. The treating doctors, by and large, failed to recognize these problems and make appropriate referrals.

Patients with alcohol dependence did not differ significantly from those without, on the composite scores in four areas in ASI. This was also seen between the patients referred and those not referred.
for psychiatric treatment. The absence of significance may be a function of the sample size. However, this could also mean that alcohol related problems may exist irrespective of the diagnosis of a dependence syndrome. This is, anyway, a well known observation (WHO expert committee on drug dependence, 1993). In the same vein, it could be said that the patients not referred for psychiatric treatment were not necessarily free from alcohol related problems.

The poor detection and referral of the alcohol misusers has been attributed to the following reasons on the part of the treating doctors:

i) inadequate training and attitudinal barriers (Clark, 1981).

ii) perceived lack of time for alcohol screening (Rowland et al., 1987).

iii) resistance to discuss issues other than related to the presenting complaints (Farrell et al., 1996).

iv) lack of employment of screening devices (Dulit & Strain, 1986). However, enhancing the capacity of the medical professionals in the general hospital setting to detect and deal with alcohol related problems or to make appropriate referrals is an element of service development (WHO expert committee on drug dependence, 1993).

This study, however, had two limitations. Firstly, although all the new admissions within the specific period of the study were screened, few were missed due to certain practical difficulties. Thus the sample was not strictly consecutive and the rate of occurrence would reflect only an approximate point prevalence of problem drinkers in our sample. Secondly, ASI was not adapted to the local language and the interviewer did not have any formal training in the ASI interview. However, the experience of the pilot assessment was communicated to the principal author of ASI and a letter of approval to method adopted was obtained.

We conclude that the problem drinkers with or without alcohol dependence in the general hospital setting are equally in need of intervention from mental health professionals. More importantly, the individuals with less severe problems should be the focus of preventive strategies. One of the ways of implementing it is to increase the awareness of problem use of alcohol among the medical professionals in the general hospitals.

REFERENCES

American Psychiatric Association (1987) Diagnostic and Statistical Manual of Mental Disorders. 3rd edition revised (DSM-III-R), Washington DC: American Psychiatric Association.

Chick, J.; Rund, D. & Gilbert M.A. (1991) Orthopedic trauma in men: The relative risk among drinkers and the prevalence of problem drinking in male orthopedic admission. Annals of Royal College of Surgery, England, 73, 311-315.

Chick, J. (1994) Alcohol problems in the general hospital. British Medical Bulletin, 50 (1), 200-210.

Clark, W. D. (1981) Alcoholism blocks to diagnosis and treatment. American Journal of Medicine, 71, 271-286.

Coleman, P.R. (1993) Overview of substance abuse. Primary Care, 20(1), 1-18.

Dulit, R.A. & Strain, J.J. (1986) The problem of alcohol in the medical/surgical patient. General Hospital Psychiatry, 8(2), 81-85.

Farrell, M.; Crowe, L.B. & Strang, J. (1996) Assessing substance use & misuse, In ; Oxford Textbook of Medicine, 3rd edition, vol. 3, (Eds.) D.J. Weatherall, J. G. G. Ledingham, D.A. Warrell, PP 4265-67, Oxford: Oxford University Press.

Fureman, B.; Parikh, G.; Braag, A. & McLellan, A.T. (1990) Addiction Severity Index 5th edition: A guide to training & supervising ASI interviews based on the past ten years. Centre for studies of addiction, University of Pennsylvania Veterans Administration, Pennsylvania.

Holt, S.; Stewart, J.; Dixon, J.; Elton, R.; Taylor, T. & Little, K. (1980) Alcohol and the emergency patient. British Medical Journal, 281, 638-640.

Jarman, C. M. B. & Kellet, J.M. (1979) Alcoholism in the general hospital. British Medical Journal, i., 469-472.

Maly, R.C. (1993) Early recognition of chemical dependence. Primary Care, 20 (1), 33-50.

Masur, J.; Cunha, J. Zuiker, A.P. et al (1980) Prevalencia de pacientes con indicadores de alcoholismo internados en una enfermaria de clinica geral: relevancia da forma de detectacao. Acta
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Psiquiatria Psicologia America Latina, 26, 125-130.

McInnes, E. & Powell, J. (1994) Drug and alcohol referrals: are elderly substance abuse diagnoses and referrals being missed? British Medical Journal, 308, 444-446.

McLellan, A.T.; Lubrosky, L.; O'Brien, C.P. & Woody, G.E. (1980) An improved evaluation instrument for substance abuse patients: The addiction severity index. Journal of Mental & Nervous Diseases, 168, 26-33.

Moore, R.D.; Bone, L.R.; Geller, G.; Mamon, J.A.; Stokes, E.J. & Levine, D.M. (1989) Prevalence, detection and treatment of alcoholism in hospitalized patients. Journal of American Medical Association, 261, 403-407.

Moreira, L.F.S.; Capiglione, M.J. & Masur, J. (1986) Consumo de álcool em pacientes ambulatoriais de hospital geral na capital e interior de estadode Rio Grande do Norte. Revista da Associação Brasileira de Psiquiatria, 2, 183-189.

Popoz, L.; Weill, J. & L Hoste J. (1986) Biological markers of alcohol intake among 4796 subjects injured in accidents. British Medical Journal, 292, 1234-1237.

Rodriguez, M.E. & Cami, J. (1988) Alcoholism among inpatients in a general hospital in Barcelona, Spain. International Journal of Addiction, 23(1), 29-46.

Rowland, N.; Maynard, A.; Beveridge, A.; Kennedy, P. & Wintersgill, W. (1987), Doctors have no time for alcohol screening. British Medical Journal, 295, 59-96.

Saroj, K & Kyaw, O. (1993) Pattern of alcoholism in the general hospital. Medical Journal of Malaysia, 48 (2), 129-134.

Saunders, J.B.; Aasland, O.G.; Babor, T.F.; de la Fuente, J.R. & Grant, M. (1993) Development of alcohol use disorders identification test (AUDIT) WHO collaborative project on early detection of persons with harmful alcohol consumption II. Addiction, 88, 617-629.

Schuckit, M.A. & Irwin, M. (1988) Diagnosis of alcoholism. Medical Clinics of North America, 72(5), 1133-1153.

Selzer, M.L. (1971) The Michigan alcoholism screening test: The quest for a new diagnostic instrument. American Journal of Psychiatry, 127, 1653-1658.

Taylor, C.L.; Kilbane, O.; Passmore, N. & Davies, R. (1986) Prospective study of alcohol related admissions in an inner city hospital. Lancet, ii 256-267.

WHO expert committee on drug dependence (1993) 28th report. WHO technical report series 836, PP2-29, Geneva: WHO.

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