

## A STUDY OF ALCOHOL RELATED PHYSICAL DISEASES IN GENERAL HOSPITAL PATIENTS

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### ABSTRACT

*We studied the prevalence of harmful use of alcohol and alcohol related diseases in newly admitted patients in a general hospital. Two hundred and ninety seven patients were screened for alcohol use with Alcohol Use Disorders Identification Test (AUDIT). Sixty one subjects (21%) had harmful pattern of alcohol consumption. Of these twenty eight patients (9.4%) had alcohol-related diseases, while in 33 patients (11.1%) we did not find any association between alcohol use and hospital diagnoses. Physicians' referral rate for problem drinking was low. The findings indicate the need for an active consultation service to address the specific issue of harmful drinking among patients admitted in general hospitals.*

*Key words : Alcohol abuse, general hospital, alcohol-related diseases*

The last two decades has seen a shift in the definition of alcoholism from a narrow "alcohol dependence syndrome" perspective to a more inclusive term that encompasses all types of harmful drinking (Edwards & Gross, 1976). This view enthusiastically supported by World Health Organization (Edwards et al., 1977) implies that an individual can drink in a damaging way without being physically dependent on alcohol. Both the official classificatory systems, the ICD-10 (WHO, 1992) and DSM-IV (American Psychiatric Association, 1994) have embraced this broader concept of alcoholism under the category "harmful use of alcohol". As measurement of alcohol related problems in the general population is rather difficult (Room, 1989), most studies have focussed on alcohol related diseases in general hospital settings. Studies done in the west have estimated that between 6.4% to 38% of general hospital inpatients have alcohol related diseases (Gerke et al., 1997). This wide variation in the prevalence rates of alcohol-related disease are due to various methodological differences among the studies. The nature and location of the hospital where the study is conducted significantly

influences the prevalence rate (Beresford, 1979). In investigating the relationship between problem drinking and hospital diagnoses, some investigators (Taylor et al., 1986; Maguire, 1988) have used the admission diagnosis as the sole criteria and others have gone by the attending physician's opinions (Lange & Schacter, 1989). In India, studies have looked at the prevalence of problem drinking in general hospitals (Pala et al., 1997; Sateesh Babu & Sengupta, 1997; Savitha Sri et al., 1997). However, there is a paucity of research in the area of alcohol related diseases in general hospitals. The aim of this study is to investigate the relation between diseases necessitating hospital admission and alcohol abuse.

### MATERIAL AND METHOD

This study was conducted in a teaching general hospital located in the city of Bangalore. Consecutive first admissions of adult males in the medical, surgical and orthopaedic wards of the hospital were screened over a 2 month period for alcohol abuse. A socio-demographic sheet was

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designed for the purpose of the study. Alcohol Use Disorders Identification Test (AUDIT) was used as the screening instrument to identify problem drinkers (Saunders et al., 1993). The AUDIT was developed by the World Health Organization to identify persons with consumption of alcohol that is harmful to their health (Babor et al., 1992). AUDIT is a 10 item questionnaire with 3 questions on the amount and frequency of drinking, 3 questions on alcohol dependence, and 4 on problems caused by alcohol. The minimum score is 0 (non-drinkers) and the maximum possible score is 40. A score of 8 or more indicates a likelihood of harmful alcohol consumption. Each patient who consented to participate in the study completed the AUDIT. Besides the English version of the AUDIT, a Kannada translation was prepared. The English version was first translated into Kannada, which was later back translated to English to ensure as close as an approximation to the original questionnaire as possible. Patients completed the AUDIT usually within the first two days of the admission. Undergraduate nursing students trained in the administration of AUDIT were available to help patients complete the AUDIT questionnaire. Those who were too ill to participate, spoke languages other than English or Kannada or refused to give consent were excluded from the study.

We reviewed the hospital records of each patient at the time of discharge to obtain the final diagnoses. The diseases were then classified into three groups: i) definitely alcohol-related (characteristic complication of harmful drinking), ii) possibly alcohol-related (alcohol consumption can contribute to the development of the said disease), iii) no relation to alcohol consumption (Gerke et al., 1997).

### RESULTS

The study sample comprised of 297 patients. The average age of the sample was 43 years (mean=42.99±17.19). There were 125 patients from the medical ward, 126 surgical patients and 46 orthopaedic patients. Of the 297 patients, 186 subjects (62.6%) had never used alcohol (AUDIT SCORE=0). Ten patients, (3.4%)

had past history of alcohol consumption but were currently abstaining (AUDIT SCORE=0). Chart review revealed that in eight patients (2.7%) the consultant physician had noted abuse of alcohol, however, these subjects did not obtain any score on AUDIT. Ninety three subjects (31.3%) had a positive score on AUDIT. Of these, 61 patients (20.54%) had a score of eight or above on AUDIT indicating hazardous or harmful alcohol consumption.

Among the patients with problem drinking most were from the surgical wards (n=37, 60.7%), followed by subjects admitted under the department of medicine (n=16, 26.2%) and orthopedics (n=8, 13.1%). Of the 61 patients with harmful use of alcohol, 14 subjects (4.7%) were categorised as having "definitely alcohol related diseases" and 14 patients (4.7%) as "possibly alcohol related diagnoses". Although another 33 subjects (11.1%) were consuming harmful amount of alcohol, there was no empirical relation between their alcohol consumption and hospital diagnoses. The mean AUDIT score of 28 patients with alcohol-related diseases (inclusive of both definite and possible category) was significantly higher than those of 33 subjects

TABLE  
ALCOHOL RELATED DIAGNOSES AMONG PATIENTS  
WITH HARMFUL CONSUMPTION OF ALCOHOL (N=28)\*

Hospital diagnosis	N	%
Diabetes mellitus	9	32.1
Trauma	8	28.6
Obstructive lung disease	6	21.4
Chronic liver disease	4	14.3
Pneumonia	4	14.3
Coagulopathy	3	10.7
Gastritis	3	10.7
Epilepsy	3	10.7
Hypertension	3	10.7
Attempted suicide	3	10.7
Gastric ulcer	2	7.1
Malignancy (esophagus, liver)	2	7.1
Delirium tremens	2	7.1
Cardiomyopathy	2	7.1
Pulmonary tuberculosis	2	7.1
Psoriasis	2	7.1
Osteoporosis	2	7.1
Pancreatitis	1	3.6
Nutritional deficiency	1	3.6

\* Some patients have multiple alcohol related diagnoses

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without alcohol-related hospital diagnoses (Mean=19.04±7.54, Vs 14.55±6.19,  $t=2.57$ ,  $df=59$ ,  $p<.05$ ). Table lists the various hospital diagnoses among patients under both the "definitely and possibly alcohol-related" diagnostic categories. The list of alcohol-related diseases includes a wide range of illnesses. However, common alcohol-related physical conditions such as delirium tremens and cirrhosis of liver were infrequent among patients in the study sample. This was probably due to the hospital admission policy with such patients being admitted directly to the specialist departments. Among the 61 subjects with harmful consumption of alcohol, 17 subjects (27.9%) on completion of the interview with AUDIT, sought help for their "alcoholism" from the study investigators. These 17 subjects had a significantly higher score on AUDIT as compared to patients who did not ask for help (Mean=22.76±8.07, Vs 13.69±4.51,  $t=4.38$ ,  $df=59$ ,  $p<.01$ ). In addition, as a group they also had more alcohol-related diseases ( $X^2=8.87$ ,  $df=1$ ,  $p<.01$ ). However, only 8 (13.1%) individuals from this group were referred to the department of psychiatry for treatment of alcohol abuse.

### DISCUSSION

This study focussed on the prevalence of problem drinking and alcohol related diseases among patients admitted to the medical, surgical and orthopaedic wards of a general hospital. Out of 297 patients screened, 61 subjects (20.54%) obtained a score of eight or above on AUDIT indicating harmful or hazardous consumption of alcohol deleterious to their health. This figure was higher than 12.8% and 14.6% reported by other investigators from India (Pala et al., 1997; Sateesh Babu & Sengupta, 1997). Savitha Sri et al. (1997) in their study of problem drinking among patients admitted to a general hospital in Bangalore noted a prevalence rate of 23.3%. This difference in prevalence figures could be due to the use of different screening instruments to detect problem drinking and hospital-related

factors (Beresford, 1979; Sateesh Babu & Sengupta, 1997). The higher prevalence of problem drinkers in our report as well as in the other study from Bangalore (Savitha Sri et al., 1997) could be related to the changing pattern of alcohol consumption in the local population. In the last few years, there has been a consistent increase in the per capita consumption of alcohol in the State of Karnataka (Janakiramaiah & Benegal, 1997; Srinivasan, 1997). Investigators have noted that aggregate alcohol consumption in a population has a significant bearing on the rates of alcohol related morbidity (Edwards, 1997; Skog, 1987).

A review of hospital records revealed that in the 61 patients with harmful pattern of alcohol consumption, 28 (9.4%) had alcohol related diseases. Studies from the West have noted prevalence rates between 6.4 to 38% of general hospital patients to have alcohol related disease (Gerke et al., 1997). Sateesh Babu & Sengupta (1997) in a general hospital study from India noted that majority of problem drinkers in their sample scored high on the medical sub-scale of the Addiction Severity Index. However, they did not directly measure the relationship between harmful alcohol use and hospital diagnoses. It is relevant to note that in the present study, 54% of patients with harmful consumption of alcohol did not have alcohol related health problems. This finding is in agreement with others that majority of problem drinkers admitted to a general hospital are for reasons unassociated with alcohol abuse (Barrison et al., 1982; Lloyd et al., 1986). One of the principal reasons for this low association between harmful use of alcohol and alcohol related physical disease could be due to problem drinkers having a milder degree of alcohol dependence syndrome. Most problem drinkers in the present sample had AUDIT score of less than 22 ( $n=51$ , 83.6%). Although alcohol dependence syndrome is conceptually different from alcohol related problems (Edwards & Gross, 1976), they are not mutually exclusive. Alcohol dependence syndrome and alcohol related problems are rather seen as lying on a continuum of severity (Drummond, 1990). Thus,

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alcohol related physical complications are more likely to be seen in patients with severe alcohol dependence syndrome (Schukit et al., 1997). This is confirmed in the present study too as problem drinkers with alcohol related disease had a significantly higher mean AUDIT score as compared to problem drinkers without alcohol related diseases. Moreover, 17 problem drinkers who voluntarily sought help from the study investigators for their "alcoholism" had a significantly higher mean AUDIT score and more alcohol related diseases as compared to problem drinkers who did not seek help. The referral rate for problem drinking in the present study was low and is in agreement with other investigators from India (Sateesh Babu & Sengupta, 1997). Physicians still see "alcoholism" from a more traditional alcohol dependence perspective and are less inclined to identify patients with harmful drinking pattern as "alcoholics" in need of treatment (Hapke et al., 1998). The alcohol related diseases seen in this study includes a wide spectrum of medical conditions. It is relevant to note that harmful consumption of alcohol is associated with common medical illnesses such as diabetes mellitus and hypertension. Barrison et al. (1980) observed that physicians do not consider alcoholism often enough as a differential diagnosis and consequently miss problem drinking among their patients.

The present study has certain methodological limitations. The sample size was relatively small. We could not interview many patients from the orthopaedic ward, as their physical condition did not allow them to participate in the study. We used only a screening instrument (AUDIT) to identify problem drinkers and did not use any laboratory tests. However, studies suggest that questionnaire or interview that measure consumption and related problems is superior to laboratory based screening tests (Lockhart et al., 1996; Wallace, 1986). Finally, we did not use any standardized instrument to measure the degree of dependence on alcohol.

In conclusion, we made an attempt in the present study to identify the prevalence of

problem drinkers in the medical, surgical and orthopaedic wards of a teaching general hospital. We also investigated the relationship between harmful use of alcohol and hospital diagnoses. We obtained figures of problem drinking that were higher than those reported by other investigators from India. Although some problem drinkers had alcohol related diseases, in more than 50% of problem drinkers the current illness was not related to alcohol abuse. Thus, the diagnostic category of "harmful use of alcohol", adopted by both the ICD-10 and DSM-IV which implies a causal relationship between harmful pattern of drinking and alcohol related disability must be used with caution. It must be stressed, however, that notwithstanding the lack of relationship between alcohol use and the current illness, the issue of problem drinking must still be addressed (Lloyd, 1992).

The referral rate to the department of psychiatry among the problem drinkers was low. This has important implications from a public health perspective. Problem drinkers and their families have been found to be heavy users of health services (Jariwala et al., 1979; Roghmann et al., 1981). In addition, work absenteeism and loss of productivity due to problem drinking places a considerable economic burden on the family and the society. There is an urgent need for sensitizing non-psychiatric physicians regarding identification of harmful consumption of alcohol among their patients. Studies have shown that early identification of problem drinking and brief intervention such as simple advice about harmful use of alcohol are beneficial and cost effective (Babor et al., 1986). Thus, the prevalence of problem drinking and alcohol related physical disability among patients in a general hospital calls for effective consultation service.

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