

IMPACT OF SUBSTANCE ABUSE COMORBIDITY ON PSYCHOPATHOLOGY AND PATTERN OF REMISSION IN MANIA

P.N. SURESH KUMAR & S.S. RAJU

ABSTRACT

This prospective study was conducted to assess the prevalence of substance abuse comorbidity and its impact on psychopathology and pattern of remission in mania. Hundred consecutive inpatients with a diagnosis of manic episode were followed up for three months using structured clinical interview schedule for DSM III R (SCID-P), DSM III R check list for mania, Bech-Rafaelsen Mania Rating Scale and a questionnaire concerning sociodemographic and clinical profile. The prevalence of substance abuse comorbidity was 52%. Substance abusers were significantly younger, had early age of onset of mood disorder, unmarried, unemployed, had more dysphoric and irritable mood states and grandiose and persecutory delusions. Risk factor analysis showed substance abuse as being consistently associated with poor outcome in mania.

Key Words : Substance abuse, comorbidity, mania

Several studies have well established that alcohol and drug abuse are significantly more common in mania than in general population (Suresh Kumar & Raju, 1997). Role of alcohol abuse/dependence in mania ranges from 40-60%, with the data from ECA study suggesting that 61% of bipolar patients abuse alcohol (Regier et al., 1990). Rates of drug abuse/dependence also appear to be high in bipolar patients ranging in reports from 8-60% (Brady & Sonne, 1995). Various epidemiological surveys conducted in our country reported a prevalence rate of psychiatric morbidity ranging from 6.7-9.9% (Sethi et al., 1967; Premarajan et al., 1993). The prevalence of manic depressive psychosis varies from 2-3% (Verghese et al., 1973; Premarajan et al., 1993) and that of drug abuse varies from 6.7-9.9% (Sethi and Trivedi, 1979; Ghulam et al., 1996). The wide variation in prevalence rates in Indian studies may be due to differences in case

finding techniques (interviewing only head of family vs. each member of family), differences in selection criteria (inclusion of only major psychiatric disorders with exclusion of neuroses) and the type of population surveyed (urban vs rural). Systematic studies are not available from India assessing the comorbidity of substance abuse in mania. Kishore et al. (1994) in a study of comorbidity of psychiatric disorders in psychoactive substance dependent patients reported 4.7% comorbidity of mania. Meyer (1986) proposes several constructs to explain the relationship between addictive disorders and coexisting psychopathologies. Certain underlying psychopathologies may be risk factors for addictive disorders or modifiers of their course. In other cases psychiatric symptoms emerge during the course of chronic intoxication. Moreover this relationship is not one simple and cause effect, rather it is bidirectional and quite complex.

Factors that may influence substance abuse comorbidity in mania have been studied to some extent in order to understand the high rate of co-occurrence. In all likelihood it stems from a variety of factors including being young, male, of lower socioeconomic status, having limited religious affiliations, impaired impulse control and attempts at symptom modulation by self medication (Hasin et al., 1985; Weiss & Mirin, 1987). In spite of the high prevalence of substance abuse comorbidity in mania there have been little information available concerning the impact of substance abuse on the psychopathology and course of mania. Moreover, many of the studies done in this area have significant methodological limitations like retrospective study design, improper sampling, uncertain diagnostic criteria, lack of control group, lack of a structured clinical interview for establishing the diagnosis and lack of drug screening tests to confirm the diagnosis of substance abuse, etc., thereby lowering the reliability of the results (Basu et al., 1994). To date, a systematic study on the comorbidity of substance abuse in mania has not been reported from India. Developing effective treatment strategies for this comorbidity depends on identifying those factors contributing to substance abuse, as these factors are poorly understood at this time.

Considering these aspects and the growing interest in the relationship between mania and substance abuse a study was planned to explore the prevalence of substance abuse comorbidity and its impact on psychopathology and pattern of remission in mania. The hypothesis for this study was that patients with manic episodes and substance abuse comorbidity are more likely to have a severe form of mood disorder with distinct psychopathology.

MATERIAL AND METHOD

The sample comprised of hundred consecutively selected male inpatients of Central Institute of Psychiatry, Ranchi admitted between 1st March, 1995 and 31st December 1995 diagnosed as having a manic

episode as per DSM III-R Diagnostic Criteria (APA, 1987). Patients with evidence of organicity either from history, clinical examination or laboratory examination were excluded from this study.

After the preliminary screening, a 1-2 hour interview was conducted consisting of the Structural Clinical Interview Schedule for DSM III R (SCID-P, Spitzer et al., 1990) to confirm the diagnosis of mania and substance abuse disorder if any, DSM III-R manic symptom check list (Helzer, 1988) to assess the psychopathology and Bech-Rafaelsan Mania Rating Scale (Bech et al., 1978) to assess the severity of mania. Information regarding the sociodemographic and clinical profile were obtained using a questionnaire designed to elicit objective information such as mean age, mean age of onset, mood disorder before 20 years age, past and family history, total duration of illness, duration of current episode, total number of episodes and history of treatment for the present episode. Subjects were placed in substance abuse/dependence group only if they met DSM-III-R criteria for substance abuse/dependence as per SCID. Serial assessment was done at two weeks interval using Bech-Rafaelsan Mania Rating Scale to assess the rate of recovery upto three months.

Assessment on follow-up for those who had already been discharged before the completion of study was done with the help accompanying relatives who had been in contact with the patient for atleast 8 hours prior to the assessment. The results were statistically analysed and compared between manic patients with substance abuse and without substance abuse comorbidity. Chi-square test (with Yate's correction wherever necessary) was used to compare categorical variables and Student 't' test was used to compare continuous variables. Multiple regression analysis was performed with manic score as the dependant variable to identify factors associated with outcome.

RESULTS

Out of hundred subjects who did meet

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the criteria for a current manic episode there were 52 substance abusers. As shown in table 1, substance abusers were significantly younger, had lower mean age of onset of mood problems, unmarried, unemployed, and Hindus. They had longer duration of illness, lower prevalence of treatment for the current episode prior to the index hospitalisation, more dysphoric and irritable mood states and delusions of persecution and grandiosity.

The commonest drug abused was alcohol (38.7%) with 23.8% at abuse level and 14.9% at dependence level. Prevalence of cannabis used disorders was 26.7% with 17.8% at abuse level and 8.9% at dependence level. The prevalence rate of abuse of sedative-hypnotics was 4%, cocaine was 3%, nicotine was 10% and polysubstance abuse was 3% (Table 2).

Table 3 shows the Bech-Rafaelsan Mania Rating Score of substance abusers and non-abusers at the time of hospitalisation, 2nd, 4th, 6th, 8th and 12th week of follow-up. Substance abuse/dependence was the single most consistent factor found to be associated with poor outcome on a stepwise multiple

regression analysis using mania score as the dependent variable (Table 4).

DISCUSSION

This preliminary study suggest that substance abuse and mania can co-occur simultaneously and that this co-occurrence is not rare. When compared to the result of ECA study (Regier, 1990) life time prevalence of substance abuse in this cohort was 52% which was comparable to the prevalence rate in general population (60.7%). Studies based on inpatient and outpatient settings provide rates varying from 4-7% (Strakowski et al., 1994; Kishore et al., 1994). The wide variation in the prevalence of comorbid substance abuse could be due to the difference in the selection of sample, viz, bipolar patients/substance abuse patients/community survey/inpatients/outpatients and the diagnostic procedures employed (retrospective chart review, clinical interview, urine/blood screening for drugs etc.).

Present study shows high prevalence for alcohol (39%) and cannabis (27%) used disorder with an insignificant number abusing

TABLE 1
SOCIO-DEMOGRAPHIC AND CLINICAL CHARACTERISTICS

	Substance abusers (N=52)	Substance non-abusers (N=48)	Test statistic
Mean age (Years)	26.1±7.0	39.5±7.0	t = 2.41, p<0.05
Mood problems before 20 years (%)	25.0	12.5	$\chi^2 = 7.47$, p <0.05
Mean age of onset of mood disorder	20.1±8.5	28.8±7.5	t = 2.46, p<0.05
Marital status (% married)	26.9	52.0	$\chi^2 = 6.64$, p <0.01
Religion (% Hindus)	98.0	85.4	$\chi^2 = 5.44$, p <0.05
Employment (% employed)	21.2	60.4	$\chi^2 = 4.0$, p <0.05
Total duration of illness (days)	1229±782.87	754.4±474.8	t = 2.46, p<0.05
H/o treatment for the present episode (%)	30.8	56.3	$\chi^2 = 8.2$, p <0.01
Dysphoric mania	52.0	25.0	$\chi^2 = 6.74$, p <0.05
Irritable mood	34.6	8.3	$\chi^2 = 6.3$, p <0.05
Persecutory delusions	48.2	29.2	$\chi^2 = 7.5$, p <0.01
Grandiose delusions	7.7	0	$\chi^2 = 6.1$, p <0.05

other drugs. The ECA study (Regier et al., 1990) and the series of observations by Strakowski et al. (1994) have also noticed alcohol abuse/dependence to be common even at the time of first episode affecting 39-47% of patients. The reason for this high prevalence is not clear, al-

DISTRIBUTION OF DRUGS ABUSED BY MANIC PATIENTS

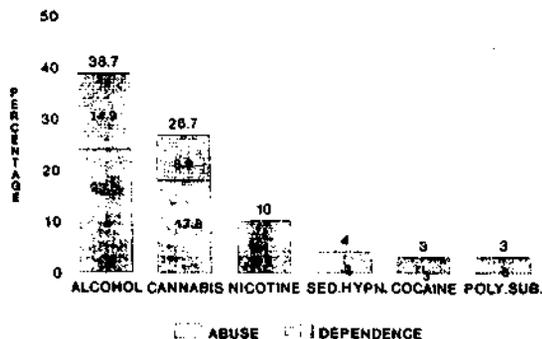


TABLE 2

though it has been suggested that patients found with affective symptoms may use alcohol and other drugs for self medication of symptoms (Reich et al., 1974; Weiss & Mirin, 1987). Additionally there are some genetic evidence showing higher rate of alcoholism in the

DISTRIBUTION OF MEAN MANIC SCORE IN SUBSTANCE ABUSERS AND NON-ABUSERS

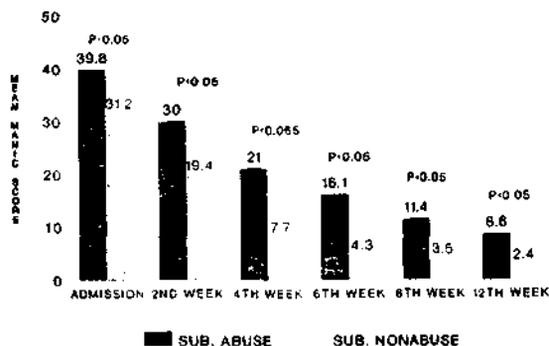


TABLE 3

TABLE 4
FACTORS ASSOCIATED WITH OUTCOME (STEPWISE MULTIPLE REGRESSION ANALYSIS)
DEPENDENT VARIABLE = MEAN MANIC SCORE

Variable	Unstandardised regression coefficient	Standardised regression coefficient	P value
4th week			
Total duration of illness (Days)	-0.0909	0.2461	0.01
Substance abuse	-0.0041	0.2177	0.02
Psychotic features	-1.6117	0.1923	0.43
(Constant)	-0.3356		0.89
6th week			
Total duration of illness	-0.1340	0.4913	0.00
Mean age of onset	-0.0191	-0.2399	0.02
Mean duration of episode	-2.3871	-0.2042	0.05
(Constant)	1.9548		0.23
8th week			
Total duration of illness	-0.0925	0.5042	0.0001
Substance abuse	-1.3547	-0.2740	0.02
Psychotic features	-0.0148	-0.2477	0.04
(Constant)	2.9150		0.10
12th week			
Substance abuse	-0.0724	0.5211	0.002
(Constant)	-0.0225		0.987

relatives of bipolar patients (Schukit, 1986). The prevalence of cannabis abuse was comparable with the previous studies reported (Brady et al., 1991). The lower prevalence rate for stimulants, sedative-hypnotics and narcotic drugs could be due to difficulty in the availability of these substances to our patients population. Another reason could be the difference in the method of sample selection, that some comparative studies are based purely on drug treatment centres where of course patient will consult only for serious drug related problems.

The influence of demographic characteristics propensity to abuse drugs among psychiatric population has not received much attention. Our data show that a significant proportion of substance abusers were young and their mood problems started before the age of 20 years. The age trends in community data and collaborative study direct towards a decreased frequency of alcohol use in older age groups (Hasin et al., 1985). Similar trends has been noticed by Indian workers (Lal & Singh, 1979; Gulam et al., 1996) as well. We found a high percentage of substance abusers being unmarried which has been reported earlier (Weissman et al., 1980). Another finding was that a significant proportion of substance abusers were unemployed which has been reported earlier also (Sonne et al., 1994). The onset of mood problems before 20 years age in our sample reflects substantially longer duration of illness in substance abusing patients. Similar data have been reported by Sonne et al. (1994). The lower prevalence of treatment in the substance abusing manic patients prior to the index hospitalisation is quite interesting. In this group, either because of the comorbid substance abuse the emergence of an affective syndrome may have been unnoticed or the treatment was simply neglected or delayed due to comorbidity.

An interesting finding was that substance abusers had a severe form of manic disorder with more dysphoric and irritable mood states and grandiose and persecutory delusions. There are plenty of reports of poor outcome in bipolar patients complicated by substance abuse due

to higher incidence of dysphoric and irritable mood states and mixed affective state (Sirakowski et al., 1994; Sonne et al., 1994). The mood changes in substance abusers could be due to withdrawal symptoms associated with hospitalisation. However, such generalisation may not be possible without having adequate data based and well controlled studies with systematic assessment of psychopathology. Our data also suggest poor outcome for mania in substance abuse population with an earlier onset of mood problems. At this juncture, however it is difficult to tell whether substance abuse worsened the course of the manic disorder or whether these individuals simply have a more severe form of affective illness making them more vulnerable to the development of substance abuse disorder. Similar data have been found in schizophrenic substance abusing population with an earlier age of onset of schizophrenia and a treatment resisting course compared with schizophrenics who do not abuse substance (Mueser et al., 1992; Basu et al., 1994). Confirmation of such hypothesis requires well controlled prospective longitudinal studies concentrating on the chronology of substance abuse and course of bipolar illness.

Before concluding, the methodological limitations of this study have to be considered. Firstly, the assessment of substance abuse was not supplemented by laboratory screening tests which to some extent may have resulted in under reporting of the prevalence rate. However systematic assessment using structured clinical tools (SCID) have been reliably used in many studies as the only assessment procedure without having much difference in prevalence rates. Secondly, other axes I or II disorders were not the focus of this study which would also influence the psychopathology and course of mania. Clearly assessment of multiple diagnosis in a prospective fashion would be needed to fully characterise the relationships between substance abuse and mania. Thirdly, there was high rate of attrition in this study. It is possible that those who had more intractable symptoms and disabilities remained in this follow-up net

and those who were better had dropped out thus artificially inflating the numbers of poor outcome. Other limitations of this study were relatively small sample size and short period of follow-up.

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P.N. SURESH KUMAR*, M.D., DPM, DNB (Psych.), MNAMS, Lecturer, Department of Psychiatry, Medical College, Calicut, Late S.S. RAJU, M.D., Ex-Director and Medical Superintendent, Central Institute of Psychiatry, Ranchi. (*M-26 (A) 62, Malaparamba Housing Colony, Calicut 673009)

*Correspondence