A STUDY OF COMORBIDITY IN PSYCHOACTIVE SUBSTANCE DEPENDENCE PATIENTS

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The study assessed the lifetime prevalence of comorbidity in forty three DSM III-R opioid and alcohol dependent patients. A total lifetime prevalence rate of 60.5% was found. The results are discussed axis wise and compared with previous relevant studies. There was no significant difference in comorbidity between the opioid and alcohol Dependent groups. Comorbidity on both Axis I and II were high, but there was no significant difference in the presence of Axis I disorders between patients with and without personality disorders. The paper also reports upon the temporal relationships amongst the co-occurring psychiatric disorders.

Key words: Comorbidity, opioid dependence, alcohol dependence, lifetime prevalence.

INTRODUCTION

Until the publication of the DSM III-R (APA, 1987), syndromal comorbidity was largely ignored. Most of the hierarchial exclusionary rules of the DSM III were dropped in the revised version, allowing clinicians to give "multiple diagnoses when different syndromes occur together in one episode of illness" (APA, 1987). DSM III-R incorporated a general rule for deciding which one of the several diagnoses is to be the "principal diagnosis" - that condition which is chiefly responsible for occasioning the evaluation or admission, and may be the cause of interference in functioning. The issue of comorbidity has now assumed center stage in psychiatric research, which has led investigators to comment that it may be one of the most important advancements in psychiatric nosology in this century (Sabshin, 1991).

Comorbidity of substance use disorders have been assessed using the DIS/DSM III (Rose et al, 1989; Regier et al, 1990), and the SADS-L/RDC (Rounsaville et al, 1982). Studies using the SCID/DSM III-R have focussed on specific disorders such as personality disorders (Nace et al, 1991) or schizophrenia (Dixon et al, 1991). The present study was undertaken as it is difficult to translate older studies onto newer diagnostic criteria, and also because these older studies did not distinguish between substance "abuse" and "dependence".

The aim was to assess the lifetime prevalence of comorbidity in patients with psychoactive substance dependence on the multi-axial DSM III-R classification system, and compare opioid dependent and alcohol dependent patient groups, on socio-demographic and clinical variables, as well as to assess the temporal relationships between the multiple co-occurring psychiatric disorders.

MATERIAL AND METHODS

Patients registered in the deaddiction clinics of the OPD's of K.G.'s Medical College, Lucknow and Nur Manzil Psychiatric Center, Lucknow, attending on specified days, provided the source of the study sample. Eighty eight patients with alcohol dependence syndrome, drug dependence (morphine type) and non-dependent abuse of alcohol and drugs (morphine type) were screened and forty three males were found suitable for the study according to the DSM III-R criteria: three patients with opioid dependence and twenty with alcohol dependence.

A semi-structured proforma was used to record sociodemographic variables and history of drug abuse. Patients were then administered the Structured Clinical Interview for DSM III-R (SCID) for Axis I and II disorders - Hindi version. Subjects were also evaluated on the Severity of Psychosocial Stressor Scale (SPSS: APA, 1987) for Axis IV and V disorders. Finally, a thorough physical examination and investigations, if necessary, were done for coding on Axis III. We used the 'interference procedure' for identifying the DSM III-R 'principal diagnosis' (APA, 1987) and the 'temporal procedure' for identifying the 'primary diagnosis' (DeRutter et al, 1989), this term being used hence forth to indicate 'the diagnosis that chronologically preceded all others' (Sanderson et al, 1990) and not to indicate the relative severity of the concurrent disorders, as used by some workers (Leckman et al, 1983; Barlow et al, 1986). The relative onset of the concurrent disorders was rated on the basis of the patients' historical report during assessment.

Chi square test was used as a test of association between the variables studied (Fisher's Exact test used where values in any cell were less than 5).

RESULTS

Sociodemographic variables: No significant difference could be found between patients with comorbidity and those without, on the sociodemographic variables studied (age, religion, education, marital status, occupation, income and domicile). When analyzed for differences between the two substance dependence groups, patients with opioid dependence were significantly younger than those with alcohol dependence ($X^2 = 5.0553$, df=1; p<0.05), belonged to a significantly lower per capita income group (Fisher's test p=0.0402) and differed significantly in domicile, 69.6% patients with opioid dependence and all patients with alcohol dependence coming from urban backgrounds (Fishers' test p=0.0076).

Extent of comorbidity: Lifetime prevalence of comorbidity in 60.5% of the total sample (65.0% in alcohol dependence and 56.6% in opioid dependence). The difference between the two groups was not statistically significant.

Table 1
Multiple Diagnoses: Lifetime Prevalence

Number of concurrent diagnosis	Opioid Dependence (n=23) (%)		Alcohol Dependence (n=20) (%)		Total (n=43) (%)	
1	10	(43.5)	7	(35.0)	17	(39.5)
2	7	(30.4)	7	(35.0)	14	(32.5)
3	5	(21.7)	5	(25.0)	10	(23.3)
4	·		1	(5.0)	1	(2.3)
5	1	(4.4)	·	·	1	(2.3)

Multiple Diagnoses: Two diagnoses were present in 32.5% and more than two in 27.9% of the total patients (Table 1).

Comorbidity on Axis I: The commonly co-occurring disorders (Table 2) were mood disorders, other substance abuse, sexual dysfunctions, psychotic disorders and anxiety disorders. No significant difference was found between the two groups.

Comorbidity on Axis II: Among patients with comorbidity, 53.8% with opioid dependence and 30.8% with alcohol dependence had personality disorders, a non-significant difference (Table 3). 72.7% of the patients with a diagnosis of Axis II also had an Axis I diagnosis, while 46.9% of those without a personality disorder had Axis I disorders, this difference not being statistically significant.

Table 2
Lifetime Prevalence of Comorbidity of Axis I
(among patients in whom comorbidity was present)

Comorbid Disorder (Axis I)	Opioid Dependence n=13		Alcohol Dependence n=13	
	Number	(%)	Number	(%)
A. Mood Disorders [a]				
Absent	10	(76.9%)	7	(53.8%)
Present	3	(23.1%)	6	(46.2%)
B. Psychiatric Disorders [b]				
Absent	11	(84.6%)	12	(92.3%)
Present	2	(15.4%)	1	(7.7%)
C. Sexual Dysfunctions [c]				
Absent	11	(84.6%)	9	(69.2%)
Present	2	(15.4%)	4	(30.8%)
D. Other Substance Abuse [d]				
Absent	8	(61.5%)	10	(76.9%)
Present	5	(38.5%)*	3	(23.1%)
E. Anxiety Disorders [e]				
Absent	12	(92.3%)	13	(100.0%)
Present	1	(7.7%)	-	

Fisher's exact test (opioid vs alcohol dependence)
a: p = 0.2046; b: p = 0.5; c: p = 0.3224; d: p = 0.2075
e: p = 0.5
* Both alcohol and cannabis abuse in one patient.

Table 3
Lifetime Prevalence of Comorbidity of Axis II
(among patients in whom comorbidity was present)

Axis II Comorbid Disorders	Opioid Dependence number (%)		Alcohol Dependence number (%)	
Absent*	6	(46.2%)	9	(69.2%)
Present*	7	(53.8%)	4	(30.8%)
Antisocial	3	(23.9%)	1	(7.7%)
Borderline	1	(7.7%)	1	(7.7%)
Narcissistic	1	(7.7%)	1	(7.7%)
Histrionic	1	(7.7%)	1	(7.7%)
Passive Aggressive	1	(7.7%)	-	-
Dependent	1	(7.7%)	1	(7.7%)

*Fisher's exact test (opioid dependence vs. alcohol dependence) p = 0.2314

Table 4
Co-occurance of the Comorbid Disorders

	Substance Abuse n=8	Depressive Disorders n=7	Psychotic Disorders n=2	Sexual Dysfunction n=6	Personality Disorders n=11	Mania n=2	Anxiety Disorders n=1
Substance Abuse	·	·	·	·	5	·	·
Depressive Disorders	·	·	·	4	3	·	·
Psychotic Disorders	·	·	·	·	·	·	·
Sexual Dysfunction	·	4	·	·	2	·	·
Personality Disorders	5	3	·	2	·	·	·
Mania	·	·	·	·	·	·	·
Anxiety Disorders	·	·	·	·	·	·	·

Table 5
Chronolgoy of Comorbidity

Lifetime Comorbidity.	Substance dependence preceding the comorbid disorder		Substance dependence subsequent to the comorbid disorders	
	Opoid	Alcohol	Opoid	Alcohol
1. Mood Disorders (n=9)				
Bipolar Manic	0	1	0	1
Bipolar Depressed	1	0	0	0
Major Depression	2	0	0	0
Dysthymia	0	0	1	3
2. Psychotic Disorders (n=3)				
Schizophrenia	0	0	2	0
Schizophreniform	0	1	0	0
3. Anxiety Disorders (n=1)				
Panic & Agoraphobia	0	0	0	1
4. Other Substance Abuse (n=7)*				
Alcohol	0	0	2	0
Opoid	0	0	0	2
Cannabis	0	0	3	1
5. Sexual Dysfunctions (n=6)				
	0	0	2	4
6. Personality Disorders (n=11)*				
	0	0	8	5

Note: The figures in the table show number of individual disorders, and not number of patients. One patient had both alcohol and cannabis abuse together, while two patients had two personality disorders each (Histrionic + Narcissistic PD; Narcissistic + Passive Aggressive PD), the sum of figures in category 4 thus being 8, and in category 6 being 13.

Co-occurrence of the comorbid disorders: The tendency of comorbid disorders to co-exist is well demonstrated in Table 4.

- Of eight patients with other substance abuse, five also had a diagnosis on Axis II.
- Of seven patients with depressive disorders, four had concurrent sexual dysfunctions and three had a comorbid diagnosis on Axis II.
- Of seven patients with sexual dysfunctions, four also had depressive disorders, and two had a diagnosis on Axis II.
- Of the eleven patients with personality disorders, five had comorbid other substance abuse, three had depressive disorders and two had sexual dysfunctions.

Chronology of comorbidity: In order to understand the chronology of comorbidity, the onset of the psychoactive substance dependence and the comorbid disorders is compared (Table 5). In five out of nine patients, the mood disorder came primary to the psychoactive substance dependence, four of these patients having dysthymia. In the remaining four patients with mood disorders, substance dependence had preceded the mood disorder in terms of chronology of development. Similarly, in the one patient with schizophreniform disorder, the psychotic episode developed after he had already developed alcohol dependence, the latter thus being the primary diagnosis.

DISCUSSION

The present study assessed the lifetime prevalence of comorbidity in patients with alcohol or opioid dependence, and the chronology of such comorbidity, using an observational, analytical study design of retrospective pattern. The small sample size (n=43) was the single major drawback of the study, due to which analyses were possible only on broad groups of disorders and comorbidity of individual disorders could not be ascertained. The sample, though unlikely to be representative of the general population, may however show a trend amongst psychiatric treatment seeking populations in tertiary level psychiatric hospitals. The possibility of a recall bias cannot be ignored either, as the study was based on retrospective recall.

About sixty percent of all patients had comorbid disorders: 65% of the alcohol dependent and 56.5% of the opioid dependent patients. The figures are slightly lower than those previously reported: 84.2% in a similar sample (Ross et al, 1988); 86.9% among opioid addicts only (Rounsaville et al, 1982). Community studies report lower rates; in a re-analysis of the ECA data, a lifetime prevalence of 32.7% (Regier et al, 1990), and in a community study in India, a figure of 6.81% was reported (Dube & Handa, 1971), reflecting the difference between treatment seeking and non-treatment seeking populations. The higher prevalence of comorbidity in treatment seeking populations (Berkson's fallacy: Berkson, 1946) may suggest that the presence of comorbid disorders provide additional motivation for patients to seek treatment (Rounsaville et al, 1982).

A large proportion of subjects in this study had multiple diagnoses, again comparable to the figures of earlier studies (Rounsaville et al, 1982). The common comorbid Axis I disorders in this study: mood disorders, sexual dysfunctions and other psychoactive substance abuse were also reported by other workers (Weissman et al, 1980; Rounsaville et al, 1982; Ross et al, 1988; Regier et al, 1990). The low prevalence of anxiety disorders in our study as opposed to the high rates in other studies quoted above, may be due to these patients presenting to our OPD with primarily anxiety related symptoms and hence being missed by our screening procedure.

At least one lifetime diagnosis on Axis II was present in 25.6% of patients. These results are not comparable with those of other workers; Nace et al

(1991) reported 57% Axis II disorders in substance abusers using SCID, but they did not differentiate between substance abuse and dependence, and had also included patients dependent on substances other than alcohol and opioids, unlike our sample. While other workers (Rounsaville et al, 1982; Ross et al, 1988) have shown specific comorbid disorders to vary with changes in sociodemographic parameters, the small sample size of the present study did not permit an analysis of the variation of individual disorders with sociodemographic variables.

Regarding the chronology of comorbidity (Table 5) it is apparent that sexual dysfunctions, anxiety disorders, other substance abuse, personality disorders and schizophrenia, all preceded the principal diagnosis in all cases, as also in four out of seven cases with depressive disorders. The one schizophreniform disorder and three out of seven cases of depressive disorders developed subsequent to the substance dependence. These findings are comparable to those of other studies. Christie et al (1988) found in their sample that three-fourths of the patients had an anxiety or depressive disorders which preceded the substance use disorder, while Ross et al (1988) found antisocial personality disorder in all cases and major depression and schizophrenia in most cases preceding the substance use disorder, though a considerable majority (23 to 40%) of the latter disorders also followed substance use disorders. However, the vital question of establishing a casual relationship between substance dependence and concurrent disorders remains largely unanswered. For this, the following criteria are suggested:

- A strong statistical association between disorders known to be causally related;
- The association should be present in samples from different settings including community specific populations, counselling centers and psychiatric hospitals;
- Relationships between the severity of the concurrent disorders should be probed;
- Confounding variables like genetic predisposition and socio-demographic variables, should be identified and removed;
- Usage of the terms 'primary' and 'principal' strictly according to the operational criteria defined by DSM III-R and Sanderson et al (1990), to prevent any ambiguity.

While the principal diagnosis is important in so far as it "will be the main focus of attention or treatment" (DSM III-R; APA, 1987), it is the temporal sequence of comorbid disorders that are important in etiological investigations of disorders. Clearly, a patient who has continuous major depression for two years, and who develops multiple somatic aches and pains in, say, the last two months, is different from a patient with long standing multiple somatic symptoms who has developed depression in the last few months. While the principal diagnosis of both patients may be major depression, it will be the primary diagnosis that is of both therapeutic and etiological importance. Adherence to such criteria may go a long way in partly unravelling what had rightly been termed, as the 'multifaceted clinical profile' of psychiatric patients.

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