

Research Paper

Psychiatric Comorbidities in Patients with Alcohol Dependence Syndrome and Its Correlation with Severity of Addiction: A Cross-Sectional Study

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ABSTRACT

Background And Objective: Alcohol dependence is a chronic condition marked by a pattern of alcohol use that compromises one's ability to function generally in socio-occupational settings and physical and mental well-being. This study is undertaken to assess the prevalence of psychiatric comorbidities in alcohol-dependence patients and to correlate the severity of addiction. **Materials & Methods:** A total of 193 Patients aged 18 to 65 years who visited psychiatry OPD with a history of alcohol abuse and inpatients referred for alcohol abuse at a tertiary care center, fulfilling the inclusion & exclusion criteria were enrolled in this observational cross-sectional study after taking informed consent. A detailed history and thorough evaluation were made. Patients fulfilling the diagnostic criteria of alcohol dependence syndrome as per ICD-10 were included. MINI-6.0 questionnaire was administered to find out psychiatric comorbidities, and the SADQ-C questionnaire was to correlate the severity of the addiction. **Results:** Of the 193 instances, 48 appear to be severe cases. A chi-square test of independence was performed to evaluate the correlation between sociodemographic characteristics and severity of conditions, which appear to be statistically significant ($P < 0.001$). Most of the patients were Males, with 95.85%. The relationship between substance use and the severity of symptoms appears to be statistically significant ($P < 0.001$). The prevalence of psychiatric comorbidity is 46.63%, and the severity of the conditions appears statistically significant ($P < 0.001$). Comorbidities, including personality disorder (13.3%), anxiety disorder (35.5%), mood disorder (28.9%), and psychotic disorder (22.2%) tend to have a statistically significant correlation with the severity of the disorders ($P < 0.001$). **Conclusion:** Psychiatric comorbidity is common in people with alcohol dependence. This study suggests a significant prevalence of psychiatric comorbidity in alcohol-dependence patients with major comorbidity as Mood Disorder, bringing us insight to evaluate in detail and treat accordingly.

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Alcohol dependency is a chronic disorder characterized by a pattern of drinking that jeopardizes a person's capacity to conduct themselves appropriately in social and professional contexts and their physical and mental well-being. Physical and emotional addiction is a result of this widespread health problem. Although alcohol use has grown greatly in poorer countries, alcohol use disorders (AUD) have historically been more prevalent in wealthier countries.[1]

It is general knowledge that drug misuse and mental diseases coexist, and studies show that the likelihood of another mental illness developing in an alcoholic is three times higher.

Surveys show that of the two billion people who consume alcohol worldwide, 76.3 million (7.63%) have at least one ailment due to their habit. The bulk of other psychopathological symptoms can be imitated or aggravated by alcohol use disorders.[2]

The co-existence of mental diseases and alcohol use issues, or "dual diagnosis," has drawn more attention lately. People with many conditions are more prone than those with a single diagnosis to encounter problems of all types, sizes, and severity. Dual diagnoses are characterized as chronic in nature and treatment-resistant.[3]

Additionally, alcohol is a strong substance that has a long-lasting impact on almost all neurochemical systems. Because of this, excessive drinking can lead to major mental illnesses, including Psychosis, anxiety, and sadness. For example, schizophrenia, bipolar disorder, and antisocial personality disorder all increase the likelihood of later developing alcohol use problems. [4]

Alcoholism patients usually receive detoxification therapy first, followed by rehabilitation.[5] However, the existence of underlying mental comorbidities that are typically ignored is the main cause of recurrence in people with alcohol-dependent syndrome. This aids treatment for those who misuse alcohol and have co-occurring mental illnesses. In order to ascertain the incidence of mental comorbidities in patients with alcohol dependence syndrome and to ascertain if they are connected to the severity of the illness, this study was carried out.

METHODOLOGY

Study design: Cross-sectional study.

Study place: Department of Psychiatry at R L Jalappa Hospital and Research Center, Tamaka, Kolar.

Study period: January 2021 to March 2022.

Study population: 193 Patients with alcohol dependence syndrome were selected and included in the study after obtaining informed consent.

Ethical aspects: Ethical approval was obtained from the Institutional Ethics Committee (IEC) on January 22nd, 2021, from Sri Devaraj Urs Medical College, Tamaka, Kolar.

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Objectives:

1. To assess the prevalence of psychiatric comorbidities in patients with alcohol dependence syndrome.
2. To assess the correlation of psychiatric comorbidities with addiction severity.

Inclusion criteria:

1. Age group between 18-65 years.
2. All adult cases of Alcohol Dependence Syndrome diagnosed as per ICD 10 Criteria presenting to R. L. JALAPPA HOSPITAL, KOLAR.
3. All Alcohol dependence patients are referred from other clinical departments to psychiatric department.

Exclusion criteria:

1. Those patients with other substance dependence apart from nicotine.
2. Previous history of undergoing treatment for other psychiatric illnesses.
3. Patients who refuse to give consent.

All participants adhering to the inclusion parameters set by the study protocol were included in the study after due Informed and written consent.

Methods of data collection:

This cross-sectional, exploratory study was conducted at R.L.Jalappa Hospital, a teaching hospital of Sri Devaraj Urs Medical College, a constituent college of Sri Devaraj Urs Academy of Higher Education and Research, after receiving approval from the institutional ethics council. The researcher thoroughly assessed their mental health and obtained a detailed history of their drinking patterns from a reliable informant. All study cases were also discussed with the department's teaching staff.

Alcohol dependence syndrome was diagnosed per ICD-10 guidelines. Individuals were included in the study after providing written informed consent.

After initial detoxification and other necessary medications, the patient was stable enough to follow the instructions and questions. The socioeconomic profile and MINI questionnaire were administered to determine any psychiatric comorbidities.

Two independent specialists in the department further verified the diagnosis of psychiatric comorbidities. Following this, the SADQ-C questionnaire was administered to measure the severity of alcohol dependency.

Statistical analysis:

All the data was entered initially into Microsoft Excel 2020, then these spreadsheets were used for analysis, and statistical analysis was done using SPSS version 20.0. Descriptive statistics were calculated as frequency, percentage, mean, and standard deviation, depicted using various tables, graphs, diagrams, etc. Statistically significant was concluded by Online calculators, and the significance test utilized was the chi-square. Statistics are deemed significant at $p < 0.05$.

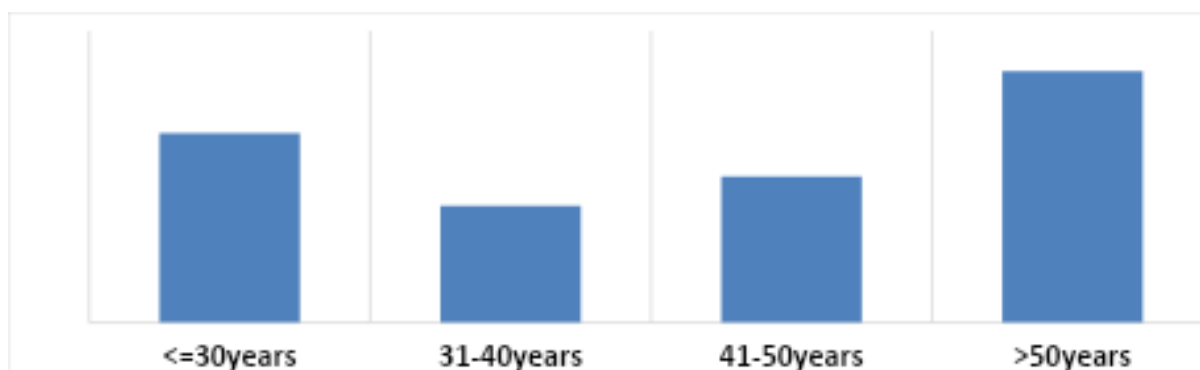
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RESULTS

During the study's duration, 193 patients were enrolled. The age group with the highest number of patients was > 50 years (35.75%) of the age group, which is followed by <=30 years (26.94%) & 41 - 50 years (20.73%).

Table 1: Age distribution of the study group (n=193)

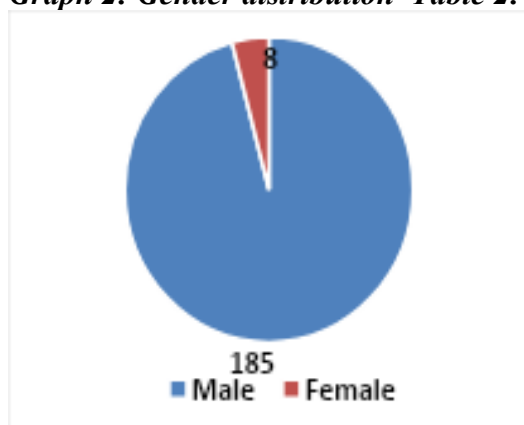
AGE	NO OF PATIENTS	PERCENTAGE (%)
<=30YEARS	52	26.94
31-40YEARS	32	16.58
41-50YEARS	40	20.73
>50YEARS	69	35.75
TOTAL	193	100



Graph 1: Age distribution (n=193)

The present study had a male predominance, with 185 (95.85%) males and only 8 (4.15%) females.

Graph 2: Gender distribution Table 2: Gender distribution



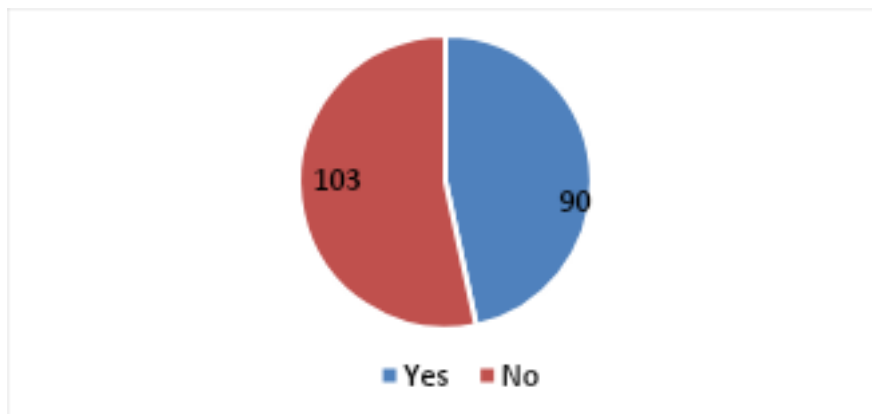
SEX	NO OF PATIENTS	PERCENTAGE (%)
FEMALE	8	4.15
MALE	185	95.85
TOTAL	193	100

The current study shows the prevalence of psychiatric comorbidities in 90 cases.

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Table: 3 Presence and Absence of Psychiatric Comorbidities

PREVALENCE OF PSYCHIATRIC COMORBIDITIES	NO OF PATIENTS	PERCENTAGE (%)
ABSENT	103	53.37
PRESENT	90	46.63
TOTAL	193	100



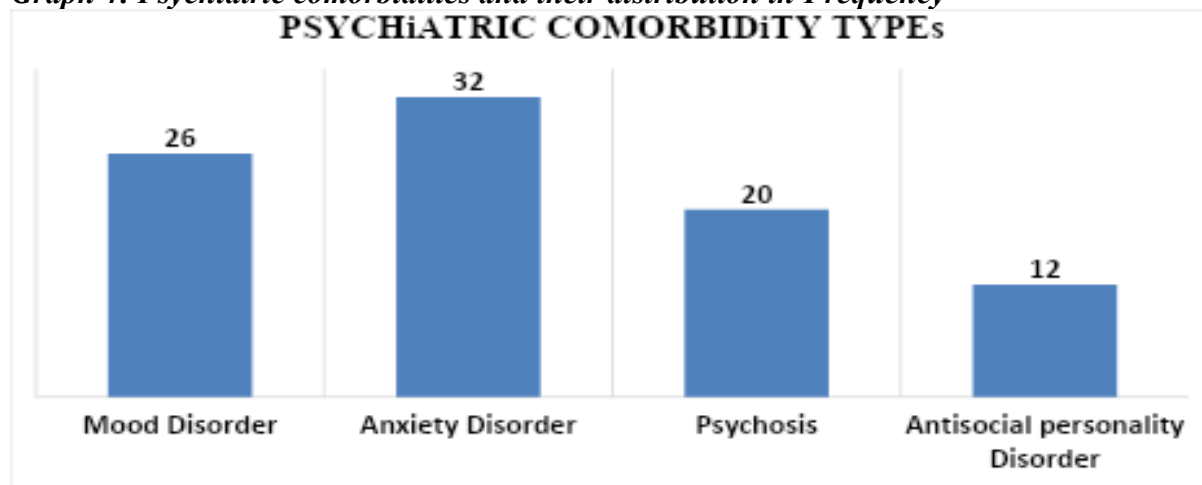
Graph 3: Presence and Absence of Psychiatric Comorbidities

In the current study, Antisocial personality disorder was diagnosed in 12 cases (13.33%). In contrast, Anxiety disorder is seen in 32 patients (35.56%), Psychosis is seen in 20 cases (22.22%), and mood disorders appear to be diagnosed in 26 cases (28.89%).

Table: 4 Types of Psychiatric Comorbidities

PSYCHIATRIC COMORBIDITY TYPES	NO OF PATIENTS	PERCENTAGE (%)
MOOD DISORDER	26	28.89
ANXIETY DISORDER	32	35.56
PSYCHOSIS	20	22.22
ANTISOCIAL PERSONALITY DISORDER	12	13.33
TOTAL	90	100

Graph 4: Psychiatric comorbidities and their distribution in Frequency



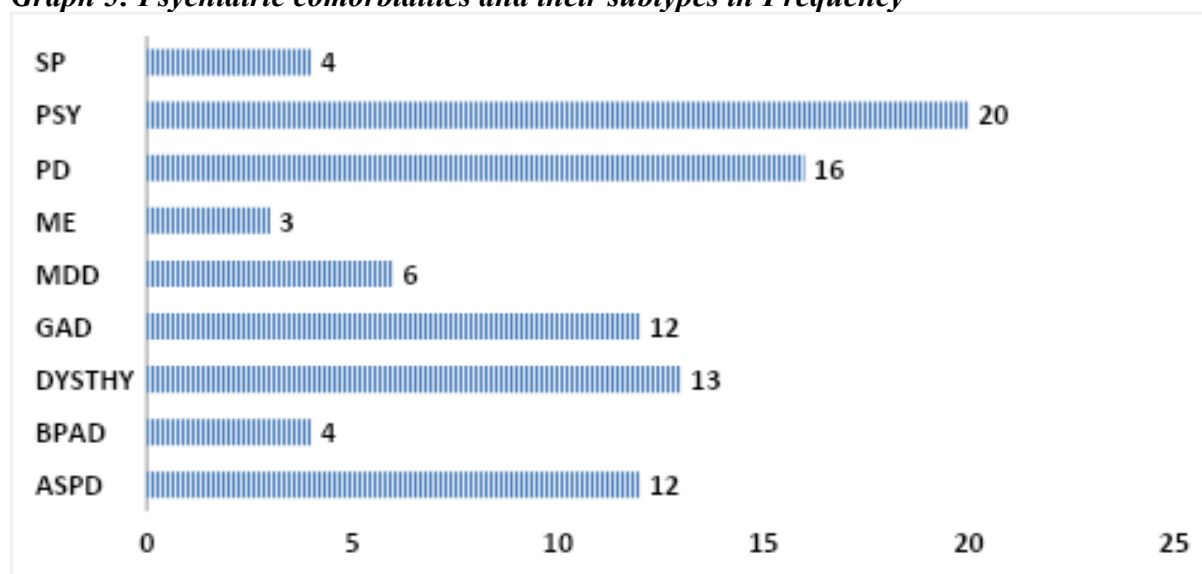
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Of the 193 cases, 103 cases were absent with any psychiatric comorbidities 90 instances involved the other types of mental comorbidities, shown below. In the present study, 12 cases were seen with antisocial personality disorder, 4 cases seen with Bipolar affective disorder, 13 cases seen with Dysthymia, 12 cases seen with Generalized anxiety disorder, 6 cases seen with Major depressive disorder, 3 cases seen with Manic episodes, 16 cases seen with Panic disorder, 20 patients seen with Psychosis and 4 cases seen with Social phobia.

Table:5 Sub types of Psychiatric comorbidities

PSYCHIATRIC COMORBIDTY SUB-TYPES	NO OF PATIENTS	PERCENTAGE (%)
ANTISOCIAL PERSONALITY DISORDER	12	13.33
BIPOLAR AFFECTIVE DISORDER	4	4.44
DYSTHYMIA	13	14.44
GENERALIZED ANXIETY DISORDER	12	13.33
MAJOR DEPRESSIVE DISORDER	6	6.67
MANIC EPISODE	3	3.33
PANIC DISORDER	16	17.78
PSYCHOSIS	20	22.22
SOCIAL PHOBIA	4	4.44
TOTAL	90	100

Graph 5: Psychiatric comorbidities and their subtypes in Frequency

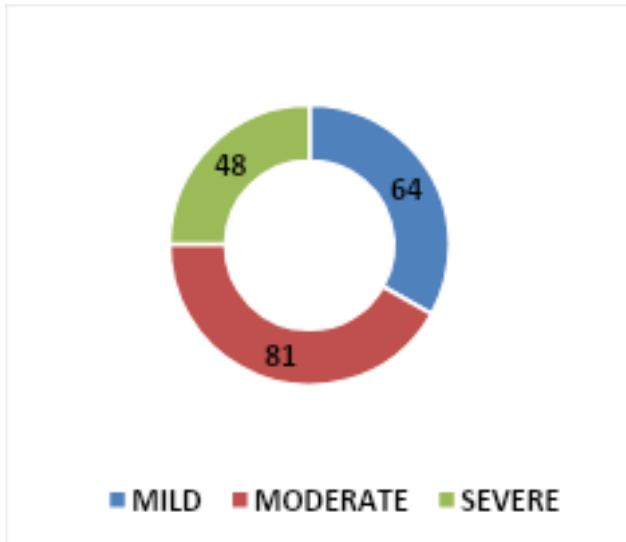


Of the 193 cases, 24.87% of the patients were suffering from severe alcohol dependence, 41.97% of patients had moderate dependence, and 33.16% of patients were suffering from mild alcohol dependence.

Table: 6 Severity of Addiction

SEVERITY	NO OF PATIENTS	PERCENTAGE (%)
MILD	64	33.16
MODERATE	81	41.97
SEVERE	48	24.87
TOTAL	193	100

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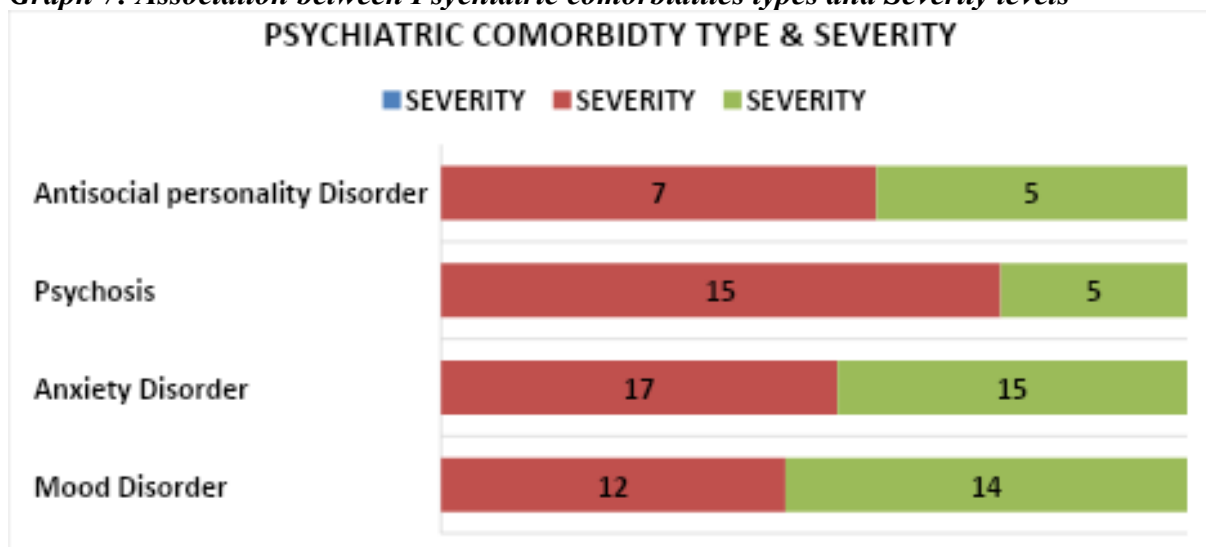
Graph 6: Severity of Addiction

To investigate the relationship between psychiatric comorbidities like Antisocial personality disorder, anxiety disorder, mood disorder, and psychotic disorder and the severity of conditions, a chi-square test of independence was used. If $p > 0.001$, these variables seem statistically nonsignificant.

Table: 7 Correlation between psychiatric comorbidities and Severity levels

PSYCHIATRIC COMORBIDITY TYPES	SEVERITY			TOTAL	P-VALUE
	MILD	MODERATE	SEVERE		
MOOD DISORDER	0 (0%)	12 (24%)	14 (36%)	26 (29%)	0.252
ANXIETY DISORDER	0 (0%)	17 (33%)	15 (38%)	32 (36%)	
PSYCHOSIS	0 (0%)	15 (29%)	5 (13%)	20 (22%)	
ANTISOCIAL PERSONALITY DISORDER	0 (0%)	7 (14%)	5 (13%)	12 (13%)	
TOTAL	0 (0%)	51 (100%)	39 (100%)	90 (100%)	

Graph 7: Association between Psychiatric comorbidities types and Severity levels



DISCUSSION

The co-occurring psychological condition might result in overuse or underuse of alcohol, leading to alcohol dependence syndrome. Therefore, it is crucial to check for psychological comorbidity in alcoholic patients. The following results determined the prevalence of psychiatric comorbidities in patients with alcohol dependence Syndrome and assessed the correlation of psychiatric comorbidities with the severity of alcohol dependence syndrome.[6]

Age distribution:

During the study period, the age group with the highest number of patients was > 50 years (35.75%) of the age group, which is followed by ≤30 years (26.94%) & 41 - 50 years (20.73%). Similarly, according to Gururaj MG et al. (2016),^[117] the National Mental Health Survey 2015-2016 found that the prevalence of AUDs is highest (6.72%) in the age range of 40-50 years. Similarly, Ramanan VV et al. (2016) revealed that the 46–55-year age group had the most significant prevalence (17.1%). [7]

Gender distribution:

The present study had a male predominance, with 185 (95.85%) males and only 8 (4.15%) females. About half as many men as women reported drinking no alcohol (14.2 vs 29.5%), and among those who reported drinking any alcohol, men drank more on average than women (16.2 vs. 6.4 U).[8]

Prevalence of Psychiatric Comorbidities:

The current study shows the prevalence of psychiatric comorbidities in 90 cases (46.63%), whereas 103 patients had no psychiatric comorbidities. According to Ravikanth T et al., in 2020, 66% of patients satisfied the criteria for a current mental condition, which included other substance misuse (9%), depression (23%), phobia (6%), mania (2%), somatization (1%) and schizophrenia (2%). Weiss et al., 2010 reported numerous co-occurring illnesses in a community survey, including severe depression (44%), bipolar disorder (6%), generalized anxiety (9%), phobia (3%), and substance abuse other than alcohol (12%) which is noted to be higher than in our study.[9]

Types of psychiatric comorbidities:

According to Gauba et al., 2016 study, mood disorders were found to be most common comorbidity, where as in our study anxiety disorder (35.5%) was found to be highest, with 2nd highest as mood disorder (28.9%), followed by psychotic disorder (22.2%) and personality disorder (13.3%) and they tend to have a statistically significant correlation with the severity of the disorders($P < 0.001$). [10]

Subtype of psychiatric comorbidities:

Of the 193 cases, 103 cases were absent with any psychiatric comorbidities 90 instances involved the other types of mental comorbidities, shown below. In the present study, 12 patients were seen with antisocial personality disorder, 4 cases seen with Bipolar affective disorder, 13 cases seen with Dysthymia, 12 cases seen with Generalized anxiety disorder, 6 cases seen with Major depressive disorder, 3 cases seen with Manic episodes, 16 cases seen with Panic disorder, 20 cases seen with Psychosis and 4 cases seen with Social phobia.

The most frequent mood illness was MDD (8%), which is consistent with numerous Indian research [Balhara YPS et al., 2016], followed by dysthymic disorder (5%) and bipolar

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disorders (5%). Previously, Western research identified MDD as the most prevalent comorbidity in ADS. However, 8% is lower than the prevalence of depressive illness reported in most studies, which ranged from 14-42%, 0.4 to 13% (Dysthymia), and 2 to 22% (bipolar disorder).[11]

Severity of Addiction:

Of the 193 cases, 24.87% of the patients were suffering from severe alcohol dependence, 41.97% of patients had moderate dependence, and 33.16% of patients were suffering from mild alcohol dependence which is in concordance with Malik et al 2017.[12]

Association Between Psychiatric Comorbidity and Severity:

To investigate the relationship between psychiatric comorbidities like Antisocial personality disorder, anxiety disorder, mood disorder, and psychotic disorder and the severity of conditions, a chi-square test of independence was used. If $p > 0.001$, these variables seem statistically nonsignificant [$p = 0.252$].

In our study, presence Of Psychiatric Comorbidity in Relation with the Severity of Dependence is 62.9 % in moderately dependant patients and 81.3 % in severely dependant patient is in concordance with Malik et al 2017.[12]

Associated substance use:

Cannabis and cigarettes were both used in 33 instances. In one instance, both lysergic acid diethylamide and cigarettes were used. Methamphetamine and cigarettes were both used in one case. Most of the individuals in the current study consumed Tobacco. Murthy P et al. (2010) examined 250 patients in New Delhi, and most of them admitted to taking opioids (0.8%), alcohol (54.4%), cannabis (8.0%), and cigarettes (79.2%).[13]

Age of Onset of Drinking:

The age group with the highest number of patients was 21 – 25 years (37.31%) of the age group which is followed by 26 - 30 years (34.72%) & ≤ 20 years (16.58%). According to Das et al. (2020), the mean age of EO patients was substantially lower (ranging from 35 to 42.43 years) than that of LO patients (the mean ranging from 40.1 to 47.61 years). [14]

Occupation:

Only 11 of the 193 cases appear to be professional, while 15 appear to be semi-professional. There were 100 unemployed people and 39 unskilled workers.

Muke SS et al. (2014) discovered no significant differences in any categorical factors of the Sociodemographic profile of frequently admitted and first-time admitted patients. Only 13 of the 30 examples in Group A appear to be skilled, while the remaining 17 appear unskilled. The association between occupation and psychological comorbidities does not interact appreciably. [15]

CONCLUSION

Alcohol dependence is frequently accompanied by psychiatric comorbidity. According to this study, psychiatric comorbidity is significantly more common in people who are alcohol addicted. A thorough evaluation is essential to determine the likelihood of a dual diagnosis and to provide treatment as necessary. This is because the possibility of a dual diagnosis increases with the dependence's severity.

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One of the most prevalent mental health issues in the community is alcohol use disorder. There is a need for intervention points that simultaneously identify co-occurring psychiatric illnesses and substance use. Untangling the relationships between alcohol consumption disorder and other disorders throughout time through epidemiological and experimental research will remain a fascinating and essential area of study.

Limitations

- The current investigation was limited to an inpatient population in a hospital setting; the findings cannot be generalized to a community setting.
- This study included inpatient alcohol dependence patients who were randomly chosen and only questioned once they had recovered from withdrawal symptoms. This eliminated bias resulting from drunkenness or abstinence violation. Using a typical diagnostic interview, the prevalence of psychiatric comorbidities was determined. However, there were certain restrictions in this study. The gap between clinical realities and research is hence extensive.

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Conflict of Interest

The author(s) declared no conflict of interest.

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