

## Co-morbidity of depression and disability in patients with alcohol dependence syndrome

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### Abstract

**Introduction:** Alcohol Use Disorders and Depression are among the leading causes of disability in the world according to WHO. But there are limited studies assessing comorbidity of depression and disability in Alcohol dependence syndrome and whether disability in alcohol dependant patients is due to depression or Alcohol Dependence Syndrome alone in this part of the country.

**Materials and Methods:** This is a cross-sectional observational study conducted in Dr. PSIMS and RF. 50 patients were included in the study and assessed for depression and disability.

**Results:** Prevalence of depression in alcohol dependence patients is found to be 84%. Disability is present in 94.98%. Significant correlation is observed when disability was compared with 'ADS with depression' (P-value <0.0001). And also, significant correlation was observed when disability was compared with 'ADS without depression' (P-value <0.0001).

**Conclusion:** Three fourths of the patients with ADS are suffering from depression. ADS is also associated with greater levels of disability, irrespective of the presence or absence of depression.

**Keywords:** Alcohol dependence syndrome, Depression, Disability.

### Introduction

Alcohol misuse and depression frequently co-occur.<sup>1</sup> The prevalence of depression in people seeking treatment for Alcohol Use Disorder (AUD) ranges from 25.7%<sup>2</sup> to 70%.<sup>3</sup> Among patients with an AUD, comorbid depression is associated with an earlier onset of alcohol dependence, higher rates of lifetime drug dependence<sup>4</sup> and worse outcomes among those entering treatment for alcohol and drug problems.<sup>5</sup> Co-morbid depression is also associated with higher relapse following Alcohol Use Disorder treatment among adolescents,<sup>6</sup> and adults.<sup>7</sup> AUD with comorbid depression is also associated with greater severity of suicidality in adult psychiatric patients;<sup>8</sup> and higher likelihood of suicide attempts<sup>9,10</sup> and completed suicides.<sup>11</sup> Heavy drinking, especially binge drinking, has been found to produce depressive symptoms.<sup>12</sup> Remission of problem drinking has also been found to significantly increase the chances of remission in depression.<sup>13</sup>

1. The Global Burden of Disease 2000 Study was conducted by the World Health Organization.<sup>14</sup> This study found that Alcohol Use Disorders and depression are among the leading causes of disability in the world, as measured by disability-adjusted life years (DALYs) and years of life lived with disability (YLDs).
2. Excessive use of alcohol causes 5.9% of all deaths globally. In addition, it is responsible for 5.1% of the disability adjusted life years.<sup>15</sup> It remains a major public health problem in South Asian region including India.<sup>16</sup>
3. The National Survey report published in 2004 estimated that nearly 62.5 million people were current users of alcohol, which is roughly 21% of the Indian adult population (16 years and older).<sup>17</sup> Dependence on alcohol was found in 16.8% of the current users and alcohol users constituted the largest proportion of treatment seekers (44%) among those with substance use disorders.

4. Alcohol contributes to the largest burden of non-communicable disease in the country.<sup>18</sup>
5. Although alcohol use has been widely acknowledged to be detrimental to the personal and socio-occupational functioning of a person, alcohol use disorders (AUDs) associated disability remains understudied in the country. Moreover, it is not recognized as a ground for disability certification and benefits. On the other hand, disability certification for people with mental illness is provided to those with specific mental disorders such as schizophrenia, obsessive-compulsive disorder (OCD), bipolar disorder, and dementia.<sup>19</sup>
6. These findings emphasise the importance of studying depression and disability in alcohol dependence. Studies regarding co-morbidity of depression and disability in patients with alcohol dependence syndrome are very limited in this part of the country. In the above background, the present study is undertaken with an intention to study the prevalence of depression and disability among patients with alcohol dependence syndrome.

### Objectives

1. To study the prevalence of depression among alcohol dependant patients attending a general hospital.
2. To study the disability in alcohol dependence patients attending a general hospital.

### Methodology

The present study is a cross sectional observational study. It was conducted in psychiatry department of Dr. PSIMS & RF for a period of 3 months from January 2018 to March 2018 and the complete project was done in accordance with the permission granted by Dr. Pinnamaneni Siddhartha Institute of Medical Sciences and Research Foundation and Hospital's Ethics Committee.

**Inclusion criteria**

Patients of age 18 years and above, who met the criteria for alcohol dependence syndrome according to ICD- 10, and having informant available. Only new cases were taken into the study.

**Exclusion Criteria**

Patients with Acute and severe physical illness, already diagnosed psychiatric illness, Uncooperative persons and those who do not give consent to take part in the study.

All the Patients meeting criteria for alcohol dependence syndrome according to ICD-10, attending psychiatry department who met the fixed inclusion and exclusion criteria were selected for the study. Sample size of 50 patients were taken by consecutive sampling.

Sample size is calculated based on the Cochran formula:

$$n_0 = \frac{Z^2pq}{e^2}$$

Where:

e is the desired level of precision (i.e. the margin of error, 5%)

p is the (estimated) proportion of the population which has the attribute in question,

q is 1 – p.

After explaining about the study, informed consent was taken from the participants and sociodemographic details were taken using a semi-structured proforma developed in the department of psychiatry. Patients were screened for depression through clinical interview using ICD-10 criteria and severity was assessed using HAM-D rating scale (Score on HAM-D: 0-7 = normal, 8-16= mild depression, 17-23 = moderate depression, 24 and above = severe depression). Disability was assessed using WHODAS 2.0 rating scale. WHODAS 2.0 scale was chosen because it has been used in previous studies to measure disability in alcohol dependence syndrome.<sup>19</sup> Statistical analysis was done using SPSS version 21. Mann-Whitney U test was used and the level of significance was set at p value <0.05.

**Results**

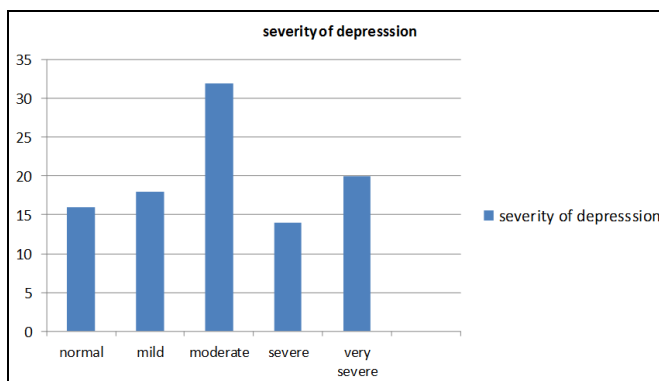
The sociodemographic characteristics of this sample (n = 50) is depicted in Table 1. All of the patients were Males (100%). Majority of the subjects were married (82%) and studied up to secondary education (40%), belonged to Hindu religion (74%), low socioeconomic status (64%) and belonged to rural back ground (78%). Most common occupation was semiskilled (52%) and unskilled (32%).

**Table 1**

Parameters	Frequency(50)	Percentage(100.0)
<b>Age(years)</b>		
20-30	8	16.0
31-40	25	50.0
41-50	12	24.0
51-60	5	10.0
<b>Religion</b>		
Hindu	37	74.0
Christian	10	20.0
Muslim	3	6.0
<b>Education</b>		
Illiterate	14	28.0
Primary	14	28.0
Secondary	20	40.0
Graduate	2	4.0
<b>SES</b>		
Lower	32	64.0
Middle	17	34.0
Upper	1	2.0
<b>Marital Status</b>		
Unmarried	2	4.0
Married	41	82.0
Separated	2	4.0
Divorced	2	4.0
Widower	3	6.0
<b>Family type</b>		
Nuclear	41	82.0
Joint	9	18.0
<b>Employment status</b>		
Unemployed	4	8.0
Unemployed	16	32.0
Unskilled	26	52.0
Semiskilled	4	8.0
Skilled		

**Prevalence of depression**

The prevalence of depression in alcohol dependence patients was found to be 84%. In terms of severity, Moderate (32%) and very severe depression (20%) was more common. This is depicted in Fig. 1.

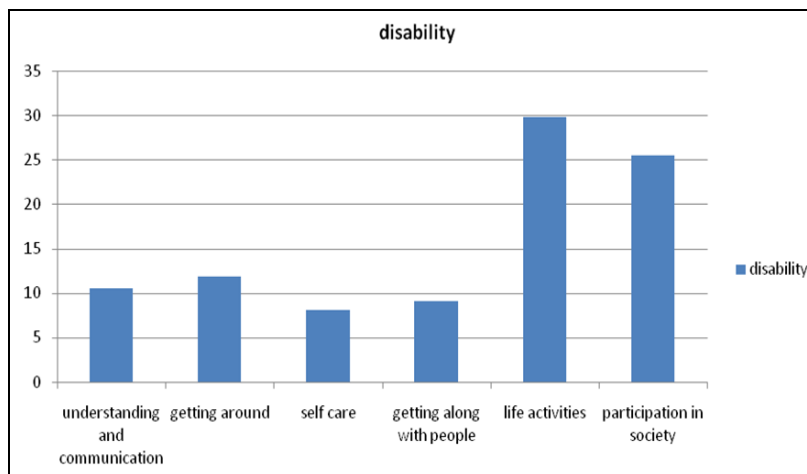


**Fig. 1**

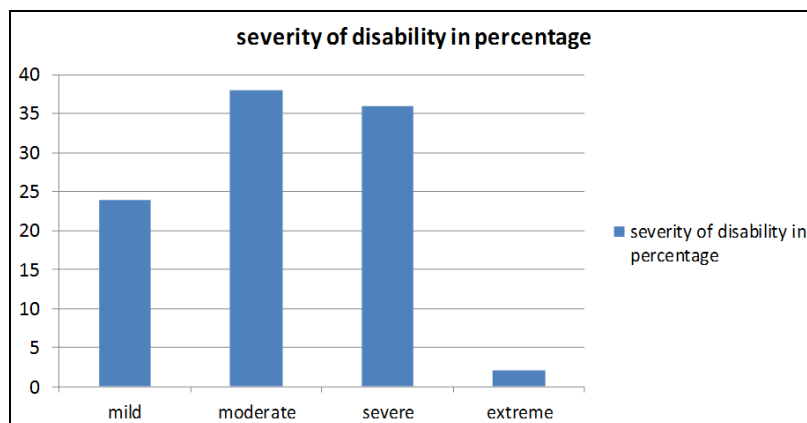
**Disability**

Disability was assessed using WHO DAS 2.0 Scale. It was found that disability is present in 94.98% of the sample. Among the individual domains, life activities (29.84%),

which include both household and work activities was most affected, followed by participation in the society(25.46%). This is depicted in Fig. 2.



In terms of severity, most of the patients had moderate (38%) to severe (36%) disability and this is depicted in Fig. 3.



**Patients with alcohol dependence syndrome with co-morbid depression correlated with disability (ads+ depression versus disability).**

Correlation was assessed between patients with alcohol dependence syndrome with comorbid depression and their disability using Mann- Whitney U test.p-value between alcohol dependant patients with depression and their disability was found to be <0.0001 which was significant. The results are shown in table 2.

**Table 2**

	n	Mean	SD	p-value
Ads + Depression	42	18.76	5.79	<0.0001
Disability	42	100.19	27.22	

**Patients with alcohol dependence syndrome without co-morbid depression correlated with disability (ADS-depression versus disability)**

Correlation was assessed between patients with alcohol dependence syndrome without depression, with their disability using Mann- whitney U test. p-value between alcohol dependant patients without depression and their disability was found to be <0.0001 which was significant. The results are shown in table 3.

Table 3

	n	Median	SD	p-value
Ads - depression	8	6.0	2.82	<0.0001
Disability	8	56.5	27.29	

## Discussion

1. In our study, sociodemographic details reveal that total sample consists of only male gender which indicates local cultural background and majority of them belong to Hindu religion which is the common religion in this area. It was found to be more common in 31-40yrs age group. Surprisingly, our study contained majority of people who did their secondary education. Most of the people belonged to lower socio economic status. Majority of the patients were married.
2. The prevalence of depression in general population is 5-17%.<sup>20</sup> Where as in patients with alcohol dependence it was 25%-70%.<sup>3</sup> In this study, we found that prevalence of depression in alcohol dependant patients to be 84% which is a little higher to the previous studies, who found a prevalence of 25%-70%.<sup>3</sup> In terms of severity of depression, most of the patients had moderate (38%) to severe (36%) depression.
3. The prevalence of disability was found to be 94%. WHODAS 2.0 reveals most impairment in the domains of life activities (29.84%), which include both household and work activities, followed by participation in the society (25.46%). Similar results were obtained in the study conducted by Balhara YP et al., and they found most impairment in the domains of participation in the society, household, and work-related activities.<sup>15</sup>
4. In this study, we compared the prevalence of disability in alcohol dependant patients with depression and without depression. Significant association was found between alcohol dependence and disability, both with and without depression. These findings suggest that alcohol dependence is related to disability irrespective of the presence or absence of depression.
5. Our study had certain limitations. Sample size is small and therefore results cannot be extrapolated to general population. Berkson bias can also be present as this study was conducted on hospital based population. Majority of the population were Hindus and the entire study sample contained only males and this can effect the results.

## Conclusion

AUDs, depression, and their co-occurrence impose a tremendous burden on individuals, families, and communities. Three fourths of the patients with alcohol dependence syndrome are suffering from depression. Alcohol dependence is also associated with greater levels of disability, irrespective of the presence or absence of depression. Further research in disability assessment of

alcohol users can help in formulating preventive early intervention strategies for specific disabilities. Alcohol control policies need to shift focus from economic issues to the social issues associated with alcohol use.

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## Conflict of interest

None.

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