

Research Report

PREVALENCE OF PSYCHIATRIC COMORBIDITY WITH ALCOHOL DEPENDENCE AND ITS ASSOCIATION WITH QUALITY OF LIFE: A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: Alcohol dependence and abuse are public health concerns associated with comorbidity and quality of life. **Methods:** The study was done on patients diagnosed with alcohol dependence using the Mini International Neuropsychiatric Interview (MINI). The presence of psychiatric comorbidity was assessed using the MINI. Quality of life was assessed using the WHO QOL-BREF scale. Significance was calculated using unpaired Student's t-test and chi-square test, respectively, for continuous and categorical variables with SPSS version 26. **Results:** Of the 121 persons with alcohol dependence, 52.1% had a psychiatric comorbidity. Bipolar affective disorder was the most common psychiatric comorbidity. The physical, psychological, social, and environmental domain mean scores of quality of life were significantly lower in patients with psychiatric comorbidity: 44.42 vs 50.69 ($p=0.002$), 37.65 vs 47.79 ($p=0.001$), 32.13 vs 41.97 ($p=0.002$), and 46.63 vs 54.02 ($p=0.001$). **Conclusion:** In the current study, around 1 in 2 persons with alcohol dependence suffer from another psychiatric comorbidity. Quality of life is also lowered in persons with alcohol dependence having a psychiatric comorbidity. Routine screening of persons with alcohol dependence to detect psychiatric comorbidity should be done.

Keywords: Alcohol Dependence, Psychiatric Comorbidity, Quality of Life, Dual Diagnosis, Social Quality of Life

INTRODUCTION

As per the National Family Health Survey 5, the proportions of alcohol consumption among males and females in Kerala were 19.9% and 0.2%, respectively.¹ In a community study done in South Kerala in 2018, the overall prevalence of current alcohol use in the community was 9.5%, with prevalence in males being 18.3% and females being 0.4%.² Around 4 lakh males in Kerala had either alcohol abuse or alcohol dependence, with the prevalence of alcohol

dependence and alcohol abuse being 2.6% and 1.2%, respectively.³ The age of initiation of alcohol use has shown a linear decrease. It has decreased from 24 years to 17 years.⁴ Comorbidity is defined as any distinct additional clinical entity that has existed, or that may occur during the clinical course of a patient who has the index disease under study.⁵ The diagnosis of psychiatric comorbidity has a huge significance in the treatment outcome, as the outcome is poorer with multiple psychiatric comorbidities.⁶ The presence of



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depressive disorder as a comorbidity at the time of treatment of alcohol dependence predicted a shorter time to relapse back to alcohol use in both men and women.⁷ The presence of psychiatric comorbidities in persons with alcohol dependence has shown that it leads to a longer duration of alcohol use, increased rates of suicide and disability, and more treatment resistance for the psychiatric comorbidity.⁸ Professionals involved in the treatment of persons with alcohol dependence having psychiatric comorbidity face unique challenges in deciding what treatment is best to address both conditions.⁹ Quality of life is defined by the World Health Organization as the individual's perception about their position in life in the context of the culture and value systems in which the individual lives and also in accordance with their expectations, goals, standards, and concerns. It is a broad concept that is affected by a person's physical health, psychological state, level of independence, social relationships, and relationship with the environment.¹⁰ Patient-reported outcome measures, such as quality of life, may be useful in choosing among therapeutic approaches, as effective treatment should not only improve the patient's clinical condition and prognosis of the patient but also their quality of life.¹¹ Quality of life is lowered in persons having alcohol dependence and improves with abstinence.^{12, 13} The severity of alcohol dependence and the presence of a psychiatric comorbidity explained the maximum variation in all the domains of quality of life.¹³ There is a paucity of studies identifying comorbid psychiatric disorders in persons with alcohol dependence syndrome using a structured interview scale. Not many studies have been done in Kerala for assessing the prevalence of psychiatric comorbidity using a structured diagnostic interview instrument.

This study aims to assess the prevalence of psychiatric comorbidity in persons with alcohol dependence using a structured diagnostic interview instrument and to study their quality of life.

MATERIALS AND METHODS

The cross-sectional study was conducted in the psychiatry OPD of a tertiary care hospital. Consecutive sampling was done. The study lasted 9 months, from September 2019 to May 2020, during which data were collected. Persons who had been diagnosed with alcohol dependence by a qualified psychiatrist using the International Classification of Diseases (ICD 10) diagnostic criteria and confirmed with the MINI International Neuropsychiatric Interview version 6, between 18 and 65 years of age, and gave consent for the study were included in the study. Persons with substance dependence other than alcohol or presence of a general condition that do not permit the patient to respond to a structured questionnaire or that affect their ability to understand the nature of the study, as well as follow or partake in the interview process, were excluded from the study. The study was given approval by the institutional ethics committee. Sample size estimation was performed using the formula $N = 4PQ/D^2$, yielding 121.¹⁵ Socio-demographic data were obtained using the pro forma. The presence of psychiatric comorbidity was assessed using the MINI International Neuropsychiatric Interview,¹⁴ version 6. Quality of Life Brief Scale (WHO QOL BREF)¹⁰ validated Malayalam version. It has 26 questions that assess quality of life across four domains: physical, psychological, social relationships, and environment. A total of 121 participants were included in the study. Data were entered into

an Excel sheet. Analysis of data was done using SPSS Statistics software version 26.

RESULTS

The study included 121 participants, all of whom were male. The majority of the participants were between the age group of 41 to 50 years (32.2%), high school educated (53.7%), and married (62%). The majority of the study sample had their last drink of alcohol between 1 and 6 months before the time of the interview. It comprised 61.1% of the study sample. The majority of the study sample belonged to below the poverty line. It comprised 84.3% of the study sample. (Table 1)

Table 1: Sociodemographic Profile of Study Participants

Variable	Number (N=121)	Percentage
Age		
Mean age= 40.15 SD=11.23		
18-30	23	19
31-40	38	31.4
41-50	39	32.2
51-65	21	17.4
Total	121	100
Age of initiation of alcohol use - (mean = 19.76, SD = 2.24)		
Education level		
Primary	15	12.4
High school	65	53.7
Pre degree	24	19.8
Graduate and above	17	14.1
Total	121	100
Marital status		
Married	75	62
Unmarried	31	25.6
Divorced	12	9.9
Widowed	3	2.5
Total	121	100
Occupation		
Unemployed	23	18.2
Unskilled	19	15.7
Skilled	62	51.2
Professional	17	14.9
Total	121	100
Duration since last drink		
1-3 months	40	33
3-6 months	34	28.1
6-9 months	21	17.4
9-12 months	26	21.5

Total	121	100
Socio-Economic Status		
BPL	102	84.3
APL	19	15.7
Total	121	100
Family history of alcohol use		
Yes	89	73.6
No	32	26.4
Deaddiction treatment taken in the past		
Yes	41	33.9
No	80	66.1

In 73.6% of the sample, there was a positive family history of alcohol use. The mean age of initiation of alcohol use was found to be 19.76 years (SD=2.24). The mean total duration of alcohol use was 18.21 years (SD=7.24). Psychiatric comorbidity was present in 63 of the participants (52.1%). 27 persons in the study sample (22.3%) had two psychiatric comorbidities (Table 2). None of the study sample had more than two psychiatric comorbidities. Bipolar affective disorder was the most common psychiatric comorbidity seen in 20.7% of the participants, followed by major depressive disorder (15.7%), antisocial personality disorder (11.6%), schizophrenia (7.3%), social anxiety disorder (5.8%), panic disorder (5.8%), generalized anxiety disorder (5%), and obsessive-compulsive disorder (2.5%). (Table 2).

Table 2: Psychiatric comorbidity in persons with alcohol dependence

Psychiatric comorbidity	Number of persons	Percentage
Bipolar affective disorder	25	20.7%
Major depressive disorder	19	15.7%
Antisocial personality disorder	14	11.6%
Schizophrenia	9	7.3%
Social anxiety disorder	7	5.8%
Panic disorder	7	5.8%
Generalized anxiety disorder	6	5%
Obsessive compulsive disorder	3	2.5%
Total	90	74.4%
Number of persons having 2 psychiatric comorbidities	27	22.3%
Number of persons with psychiatric comorbidity in persons with alcohol dependence	90-27=63 (N=121)	74.4-22.3=52.1%

An unpaired t-test was performed to obtain the mean domain scores of quality of life. Higher scores indicate better quality of life in that particular domain. The physical mean domain score was 44.43 in persons with alcohol dependence having a psychiatric comorbidity, whereas it was 50.69 in persons with alcohol dependence without psychiatric comorbidity. The psychological mean domain score was 37.65 in persons with alcohol dependence having a psychiatric comorbidity, whereas it was 47.79 in persons with alcohol dependence without a psychiatric comorbidity. The social mean domain score was 32.13 in persons with alcohol dependence with psychiatric comorbidity, whereas it was 41.97 in persons with alcohol dependence without psychiatric comorbidity. The environmental mean domain score was 46.63 in persons with alcohol dependence with psychiatric comorbidity, whereas it was 54.02 in persons with alcohol dependence without psychiatric comorbidity (Table 3).

Table 3: Mean score comparison of Quality of life in persons with alcohol dependence with and without psychiatric comorbidity

Quality of life (Domains)	Quality of life mean score (With comorbidity)	Quality of life mean score (Without comorbidity)	P value
Physical	44.43 (SD=11.93)	50.69 (SD=9.18)	0.002
Psychological	37.65 (SD=14.83)	47.79 (SD=10.91)	0.001
Social	32.13 (SD=15.46)	41.97 (SD=13.56)	0.002
Environmental	46.63 (SD=9.35)	54.02 (SD=7.18)	0.001

The study results indicate that the mean domain scores of quality of life are significantly lower when persons with alcohol dependence have a psychiatric comorbidity than when compared to those persons with alcohol dependence without a psychiatric comorbidity. Also, the Pearson correlation

coefficient was calculated to determine if there was any association between total duration of alcohol use in years in persons with alcohol dependence and perceived quality of life score. The result showed a small, significant negative relationship between total duration of alcohol use in years and perceived quality of life score. (Pearson correlation coefficient (r) = -0.251, P-value= 0.005).

DISCUSSION

The background characteristics of the entire sample with regard to age, marital status, educational status, and occupational status were similar to a recent district-based survey done on the prevalence and pattern of alcohol use in Kerala by Vidhukumar et al.³ Global studies like the Epidemiological Catchment Area study¹⁶ showed that mood disorders were found to be present in 13% of individuals with alcohol abuse or dependence. In the study done by Kanwar et al.¹⁵ in 2017 in Himachal Pradesh, the psychiatric comorbidity in persons with alcohol dependence was found to be 45%, which is similar to our study findings, with major depressive disorder being the most common psychiatric comorbidity. While in our study the most common psychiatry comorbidity was bipolar affective disorder with a prevalence of 20.7%, there is a possibility of inclusion of alcohol-induced mood symptoms as bipolar disorder, which might explain the higher prevalence. In the study done by Kattukulathil et al.¹⁷ in a teaching hospital in Kerala, it was found that 66% of the study sample with alcohol dependence had a psychiatric comorbidity. Bipolar affective disorder was the most common psychiatric comorbidity with a prevalence of 20.4%, which is in concordance with our study findings. Our study has used a validated structured interview scale for diagnosing psychiatric

comorbidity, which enhances diagnostic reliability, reduces interviewer bias, and ensures consistency with diagnostic criteria, thereby improving the internal validity and reproducibility of the findings. In a study done in rural South India by Ravikanth and Sultan¹⁸, the prevalence of psychiatric comorbidity in patients having alcohol dependence was 33 percent, with the most prevalent psychiatric comorbidity being mood disorder, followed by anxiety and psychotic disorder, which is similar to our study. The study population had 33 percent females, and 90 percent of the sample had only mild or moderate alcohol dependence, which could result in the lesser prevalence of psychiatric comorbidity compared to our study. In a study done by Jithin TJ et al.¹⁹ in Kerala, the age of onset of alcohol use and the number of past deaddiction treatments were significant socio-demographic variables for increased severity of alcohol dependence. Our study sample had a mean age of onset of alcohol use of 19.76 years, higher unemployment rate (18.2%), 25 % unmarried men, and around one-third of the study sample having taken deaddiction treatment in the past, which all could suggest a higher severity of alcohol dependence and a higher prevalence of psychiatric comorbidity. In the study done by Sachin Retam Gedam²⁰ et al in Central India, the prevalence of psychiatric comorbidity in persons having alcohol dependence was 49 percent, with mood disorders being the most prevalent, followed by anxiety disorders, which is similar to our study findings. The study population had 99 percent males and had a higher number of persons having severe alcohol dependence. In our current study, the presence of psychiatric comorbidity had a negative association with the quality of life. The mean physical domain score was 44.43 and 50.69 for persons having alcohol dependence with and without psychiatric comorbidity, respectively, with a p-value of

0.002. The mean psychological domain score was 37.65 vs. 47.79 with a p-value of 0.001. The mean social domain score was 32.13 vs. 41.97 with a p-value of 0.002. The mean environmental domain score was 46.63 vs. 54.02 with a p-value of 0.001. All the domain scores were significantly lower in persons with alcohol dependence having a psychiatric comorbidity. In a study done by Arya et al²¹ in Haryana, the study findings of the association of different domains of quality of life with psychiatric comorbidity in persons with alcohol dependence were physical domain (42.12 vs 57.78, $P = 0.001$), psychological domain (40.19 vs 53.29, $P = 0.002$), social domain (43.97 vs 66.90, $P = 0.000$), and environmental domain (50.47 vs 62.71, $P = 0.001$). These findings are comparable with our study. This study also shows a negative association between the presence of a psychiatric comorbidity and the different domains of QOL. The mean QOL scores in their study for persons without any psychiatric comorbidity with alcohol dependence were higher when compared to the current study. Our study sample included persons with physical comorbidities, more unemployed people, fewer married persons, longer total duration of alcohol use, early age of initiation of alcohol, and higher mean age, which could explain the lower mean QOL scores. The limitations of this study include using a cross-sectional design and excluding people who had nicotine dependence and other substance dependence. The study sample consisted of only males. The study was conducted in a single setting at a tertiary-care government hospital. The prevalence rate in our study could have been affected by alcohol-induced psychiatric disorders, which could be a potential confounder. No multivariate analysis was performed to adjust for confounders such as age, socioeconomic status, duration of alcohol use, or medical comorbidities. The presence of medical comorbidities, other personality disorders not included in the MINI

neuropsychiatric interview, and the presence of past childhood neurodevelopmental disorders were not assessed. The relation of quality of life with the various sociodemographic parameters has not been assessed, which is a study limitation. Also, any change in quality of life domain scores with respect to the total period of abstinence and the presence of 2 psychiatric comorbidities in persons with alcohol dependence has not been assessed, which is a study limitation. The duration of psychiatric comorbidity and treatment details for the same have not been assessed. The severity of alcohol use has not been assessed, which is also a limitation of the study. The latter part of the study period overlaps with the early phase of the COVID lockdown. This may have led to selection bias and possible overestimation of psychiatric comorbidity, as more severe cases would have presented to the hospital, with the pandemic itself causing an increase in psychiatric comorbidity. Further studies that assess the presence of psychiatric comorbidity with other substance dependence and studies that show the prevalence of comorbid neurodevelopmental disorders and personality disorders in persons with alcohol dependence can be done. Studies on treatment integration regimens for alcohol dependence with psychiatric comorbidity are also required.

CONCLUSION

The current study shows that around half of the persons with alcohol dependence have a psychiatric comorbidity. Routine screening of persons with alcohol dependence should be done for detecting the presence of a psychiatric comorbidity. Integrated or dual-diagnosis treatment models that address both disorders together can yield the best treatment outcomes for the patient. This study also shows that the presence of a psychiatric comorbidity in persons with alcohol

dependence is associated with a lower quality of life. Hence, detecting the presence of a psychiatric comorbidity has added importance, as it not only affects the treatment of persons with alcohol dependence but also helps in improving the quality of life in persons with alcohol dependence if the psychiatric comorbidity is treated.

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