

Original Research Article

TO STUDY PATTERN OF ALCOHOL USE, PSYCHIATRIC CO-MORBIDITY, SEXUAL FUNCTIONING AND HEALTH RELATED QUALITY OF LIFE IN PATIENTS PRESENTING WITH ALCOHOL USE DISORDER

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ABSTRACT

Introduction: Alcoholic beverages are a routine part of the social landscape for many in today's social circles, leading to increasing prevalence of alcohol use disorder. Alcohol use disorders (AUDs) are associated with wide array of medical and psychiatric comorbidities. Personality disorder and sexual dysfunction are more prevalent as compared to general population. Furthermore, due to chronic relapsing nature of AUDs quality of life is also found to be impaired. **Aim and Objectives:** To explore and compare various parameters like socio-demographic factors, psychiatric co-morbidities including personality profile, sexual functioning and quality of life in patients of alcohol use disorder. **Methodology:** This was open label cross sectional study conducted in an out-patient department at tertiary care teaching hospital at rural area in Navi Mumbai, Maharashtra, India. 200 alcohol use disorder patients were selected by simple random sampling after careful screening for inclusion and exclusion criteria. General description, demographic data and psychiatric history and examination were recorded in a semi-structured proforma. Appropriate scales were administered for socioeconomic status, personality disorder, sexual dysfunction and quality of life. Data was analysed using IBM SPSS for windows with significance at $p < 0.05$. **Result:** Majority of the sample population with AUD constituted

middle- aged males with most common pattern of alcohol consumption being dependence and hazardous use. Psychiatric co-morbidities co-existed in 45.5% of AUD patients. Most common sexual dysfunction reported were problems in desire and erectile dysfunction/vaginal lubrication. The mean scores on WHOQOL-BREF scale were comparable on all domains. **Conclusion:** The current study throws light in estimating public health consequences of alcohol use in terms of psychiatric co-morbidity, sexual dysfunction and resulting influence on patient's QoL.

Keywords: Alcohol Use, Psychiatric Co-Morbidity, Sexual Functioning, Quality of Life

INTRODUCTION

Alcoholic beverages are a routine part of the social landscape for many in today's social circles. According to World Health Organization (WHO) estimates, about 2 billion people worldwide consume alcoholic beverages and 76.3 million have diagnosable alcohol use disorders.^[1] An Indian study reported the prevalence of alcohol use to be 29.6%.^[2] Overall, in India, the epidemiological picture of alcohol use is that almost half of all drinkers have hazardous pattern of drinking, and the signature pattern of hazardous drinking is one of heavy drinking, daily or almost daily drinking, under-socialized, solitary drinking of mainly spirits, drinking to intoxication and expectancies of drink-related dis-inhibition.^[3]

Alcohol use disorders (AUDs) are associated with variety of medical-social-legal consequences including chemical dependency, increased occurrence of violence and accidents, leading to early deaths and disabilities along with medical complications related to heart, liver, nutritional diseases, and increased risk of cancer.^[4] Furthermore, it is associated with a range of psychiatric co-morbidities like depression, bipolar disorder, panic disorder, generalized anxiety disorder (GAD), antisocial personality disorder (ASPD) and schizophrenia,^[5,6,7] sleep disorders,^[8] personality disorders,^[9] and sexual dysfunctions.^[10]

Personality disorders are found to be approximately four times more prevalent in patients who drink alcohol than in the general population ^[9] varying from as low as 22- 40% to as high as 58-78%. ^[5,11,12] Common personality traits found among patients with AUD include negativistic, depressive, narcissistic, impulsive, antisocial and borderline behaviours.^[5,13]

According to a study, sexual dysfunction was reported in 72% of the subjects with AUD. ^[14] Sexual disorders consist of miscellaneous components in sexual functioning such as the arousal mechanism, difficulty in getting penile tumescence and the performance which may include premature ejaculation or delayed ejaculation.

These can occur as a result of the depressant effect of alcohol itself, alcohol-related disease or due to a multitude of psychological forces related to the alcohol use.^[9]

As alcohol dependence is being increasingly recognised as chronic relapsing illness, Quality of Life (QoL) assessment have been often used as secondary outcome measure and to measure individual's welfare, contentment and ability to function in different domains.^[15] WHO defines QoL as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns.^[16] A lower QoL in patients using alcohol was found in earliest studies which assessed QoL in alcohol dependence, more so in those with high frequency and binge drinking pattern.^[17] Apart from certain socio-demographic factors, presence of psychiatric co-morbidity has been found to contribute significantly to lowering QoL in alcohol dependence.^[18] There have been few studies from India highlighting the poor QoL in alcohol dependence, however, there is lack of literature on the relation between co-morbidities and their influence on QoL in alcohol dependence syndrome in Indian settings.^[19,20,21]

Considering the increasing trend of alcohol use in early age and severity of the consequences it carries, this study was undertaken to explore and compare various parameters like socio-demographic factors, psychiatric co-morbidities including personality profile, sexual functioning and quality of life in patients presenting to tertiary care hospital in rural area and diagnosed with Alcohol Use Disorder (AUD).

METHODOLOGY

Study design: This was an open-label cross-sectional study where all patients aged 18 to 60 years, attending an out-patient department at tertiary care teaching hospital at rural area in Navi Mumbai, Maharashtra, India, diagnosed with AUD according to the International Classification of Diseases and Related Health Problems (ICD-10)^[22] diagnosis, between 18 to 60 years of age and giving valid consent were included in the study by random sampling technique. However, patients with severe alcohol withdrawal requiring in-patient treatment, any other severe psychiatric and severe medical/surgical illness, mental retardation or sensory impairments, polysubstance dependence (except caffeine) and who did not give valid informed consent were excluded from the study.

Procedure: Data was collected on the same day of presentation to respective out-patient departments to minimize the effects of confounding medications prescribed by treating psychiatrist at the outpatient department of Department of Psychiatry of the tertiary care teaching hospital in rural area, Navi Mumbai.

General description, demographic data and psychiatric history and examination were recorded using pre-designed study proforma and reliable and valid scales for assessing socio-economic status (by Modified BG Prasad socioeconomic scale)^[23], pattern of alcohol use (Alcohol use disorder identification test, AUDIT)^[24], psychiatric co-morbidities, personality profile (International Personality Disorder Examination, IPDE)^[25], sexual functioning (Arizona Sexual Experiences Scale, ASEX)^[26], and health related quality of life (World Health Organization Quality Of Life Instruments, WHOQOL-BREF)^[27]. Patients were screened for personality disorders using the IPDE screening questionnaire (ICD-10 version) and those who scored high on screening were evaluated further by the psychologist.

Modified BG Prasad socioeconomic scale (2014) divides socioeconomic status into social class I to V according to per capita monthly income in rupees/month. ^[23] AUDIT scale consists of 10 questions and score range 0-40. It measures hazardous use (score 8-15), harmful use (score 16 -19)^[24] and dependent use (score ≥ 20) with sensitivities between 51 and 97%, and specificities between 78 and 96% ^[27] (Cronbach's $\alpha=0.98$) ^[28] IPDE is a semi structured clinical interview, used as a screening tool to assess the personality disorders in International Classification of Diseases-10th edition (ICD-10) classification system.^[25] Various personality profiles assessed in IPDE scale include Paranoid, Schizoid, Dissocial, Impulsive, Borderline, Histrionic, Anankastic, Anxious and Dependent. ASEX 5-item rating scale based on a 6-point Likert Scale with total score range from 5-30. It assesses sexual drive, arousal, penile erection (males) or vaginal lubrication (females), ability to reach orgasm & satisfaction from orgasm. Total ASEX score of > 19 , any one item with a score of > 5 , or any three items with a score of > 4 would have sexual dysfunction. The sensitivity and specificity of the ASEX in terms of the identification of sexual dysfunction were 82% and 90%, respectively. (Cronbach's $\alpha=0.9055$) ^[26] WHOQOL-BREF is a 26-item multiple-choice questionnaire. It assesses a quality-of-life profile consisting of four domains i.e., physical, psychological, social, and environmental. Higher scores denote higher QOL ^[29] (Cronbach's $\alpha = 0.925$) ^[30]

Statistical analysis: Data analysis was done by IBM SPSS (International Business Machines Statistical Package for the Social Sciences IBM Corp., Armonk, NY, USA) version 20 for Windows. Level of significance was defined as $p < 0.05$ (two-tailed). Data was presented in frequency, means and standard deviations. Chi square test was applied to compare two groups.

RESULTS

A total of 200 patients with a diagnosis of alcohol use disorder were enrolled after careful screening. Results are presented as per study objectives – pattern of alcohol use; prevalence and pattern of psychiatric co-morbidities and personality profile; sexual functioning; and quality of life in the study participants.

Table 1 Baseline sociodemographic characteristics

Socio-demographic Profile		Frequency (N=200)	Percents
Age Distribution (Mean Age = 37.51 years)	18-30 years	63	31.5
	31-45 years	86	43.0
	46-60 years	51	25.5
Sex Distribution	Male	183	91.5
	Female	17	8.5
Marital Status	Never Married	56	28.0
	Married	126	63.0
	Separated/Divorced	13	6.5
	Widowed	5	2.5
Education	Illiterate	33	16.5
	Primary	21	10.5
	Secondary	85	42.5
	Graduation or above	61	30.5
Occupation	Student	33	16.5
	Unemployed	28	14.0
	Unskilled Employment	16	8.0
	Skilled Employment	123	61.5
Family Type	Nuclear	141	70.5
	Joint	37	18.5
	Extended Nuclear	22	11.0
Background	Rural	152	76.0
	Urban	48	24.0

Socio-economic Status	I (Upper Class)	56	28.0
	II (Upper Middle Class)	78	39.0
	III (Middle Class)	46	23.0
	IV (Lower Middle Class)	3	1.5
	V (Lower Class)	17	8.5

Table 2 Pattern of alcohol use and illness related variables

Variable	Frequency (%) / Mean
Duration of alcohol consumption	8.40±5.083 years
Alcohol Use Disorder Identification Test AUDIT	
Mean score	19.1 ± 4.98
Low risk pattern	39 (19.5%)
Hazardous pattern	59 (29.5%)
Harmful pattern	42 (21.0%)
Dependence pattern	60 (30.0%)
Type of liquor	
Country liquor	83 (41.5%)
Whiskey	75 (37.5%)
Beer	18 (9.0%)
Rum	12 (6.0%)
Vodka	7 (3.5%)
Combined liquor	5 (2.5%)
Past history of hospitalization relating to alcohol use	50 (25%)
Family history of alcohol consumption	54 (27%)
History of medical comorbidity	89 (44.5%)

Table 3 Psychiatric comorbidities, personality profile, sexual dysfunction and quality of life among the participants

Variables	frequency (Percent) / Mean
Psychiatric comorbidities	
Prevalence	91 (45.5%)
Anxiety disorders	24 (26.37%)
Depressive disorders	22 (24.18%)
Schizophrenia and other psychotic disorders	14 (15.38%)
Multiple psychiatric comorbidities	12 (13.19%)
Bipolar affective disorders	12 (13.19%)
Somatoform disorders	5 (5.49%)
Sleep related disorders	2 (2.2%)
Personality profile (IPDE scale)	
Prevalence of one or more personality profile	185 (92.5%)
Schizoid personality	118 (64.0%)
Anankastic	104 (56.0%)
Paranoid	103 (55.5%)
Anxious	102 (55.0%)
Dependent	91 (49.0%)
Histrionic	91 (49.0%)
Impulsive	81 (44.0%)
Borderline	71 (38.5%)
Dissocial	67 (36.5%)
Sexual dysfunction (ASEX scale)	
Prevalence of sexual dysfunction (one or more domains)	57 (28.5%)
Sexual dysfunction reported as per domains of ASEX scale	
Domain 1 - Desire	25 (43.86%)

Domain 2 – Arousal	12 (21.05%)
Domain 3 – Penile erection/Vaginal lubrication	24 (42.11%)
Domain 4 – Orgasm	12 (21.05%)
Domain 5 - Satisfaction	12 (21.05%)
WHO-QoL-BREF scale mean score	
Domain 1 (Physical Health)	14.44 ± 2.448
Domain 2 (Psychological)	14.07 ± 2.665
Domain 3 (Social Relationships)	14.96 ± 2.667
Domain 4 (Environment)	14.34 ± 3.10

Table 4 Comparison of pattern of alcohol use with sexual dysfunction and psychiatric comorbidities

Pattern of alcohol use	Sexual Dysfunction present	p-value	Psychiatric Co-morbidities present	
Dependence	20 (33.3%)	0.010	29 (48.3%)	0.781
Harmful	18 (42.9%)		21 (50.0%)	
Hazardous	11 (28.2%)		25 (42.4%)	
Low Risk	8 (13.6%)		16 (41.0%)	

Table 5 Comparison of quality of life with pattern of alcohol use, sexual dysfunction and psychiatric comorbidities

		Domain 1 (physical)		Domain 2 (psychological)		Domain 3 (environmental)		Domain 4 (social)	
		Mean score	p-value	Mean score	p-value	Mean score	p-value	Mean score	p-value
Pattern	Low Risk	13.97 ± 2.73	0.001	14.95 ± 1.98	0.001	15.82 ± 3.03	0.001	14.47 ± 3.18	0.130

	Hazardous	15.74 ± 1.75		15.02 ± 2.69		15.84 ± 1.71		14.91 ± 2.25	
	Harmful	14.06 ± 1.82		14.04 ± 1.62		14.09 ± 3.29		13.44 ± 3.08	
	Dependence	13.71 ± 2.75		12.57 ± 2.96		14.13 ± 2.26		14.31 ± 3.65	
Sexual dysfunction present		12.97 ±2.58	0.001	13.39 ± 2.16	0.022	13.49 ± 2.64	0.001	13.73 ± 2.73	0.083
Psychiatric comorbidities present		14.24 ± 2.4	0.312	13.91 ± 2.34	0.457	15.22 ± 2.68	0.203	14.5 ± ±2.92	0.507

DISCUSSION

In our study, total 200 patients of age 18-60 years with diagnosis of alcohol use disorder were enrolled, with mean age of 37.51 years (SD ± 10.410), majority (43.0%) of the participants belonged to age group of 31 to 45 years. An Indian study conducted by Girish N et al reported that more than two-thirds of participants consuming alcohol belonged to 26-to-45-year age-group. ^[31] In our study, males (91.5%) outnumbered females (8.5%). Similar findings were reported in other studies conducted in India by Ganesh Kumar et al, Sharma et al, Sarkar et al, ^[32,33,34] who reported that males had higher average quantity of alcohol consumption per day as compared to females, which may reflect socially accepted alcohol consumption. Most of the participants in our study were married (63.0%), which was also reported by Kattukulathil et al, Srivastava et al, Sharma et al, Rathod et al. ^[6,19,33,35] This finding could be explained with the fact that in India, marriage is considered to be a stabilising event and people with bad habits or illness are made to get married so as to bring change in them.

In our study, majority of the patients were educated up to secondary (42.5%) followed by graduated or above (30.5%), illiterate (16.5%) and primary (10.5%) and belonged to nuclear families which is in concordance with the previous hospital based Indian studies by Kattukulathil et al, Arya et al, Chaudhary et al, Reddy et al. ^[6,16,36,37]

The mean duration of alcohol consumption among the study sample was 8.40 (± 5.083) years. Dependence (30.0%) and hazardous (29.5%) patterns were the most common patterns observed among the study sample

followed by harmful (21.0%) and low risk (19.5%) patterns. Country liquor and whiskey were observed to be commonly (41.5% and 37.5% respectively) consumed by study participants in our study as compared to Indian made foreign liquor (beer, rum and vodka) constituting 18.5% of all types of liquor. Our study findings replicated previous studies by Benegal et al, Arya et al, Girish et al, Ganesh Kumar et al, Rathod et al. [3, 16,31,32,35]

One or the other psychiatric co-morbidity was found in 45.5% of participants on screening with ICD-10 diagnostic system. In some clinical studies, the prevalence rates for psychiatric co morbidity were reported to be as high as between 57% and 84%. [Singh A, Shakya Dhana R] Most common psychiatric co-morbidity observed in patients of AUD was anxiety disorder (26.37%), followed by depressive disorder (24.18%), schizophrenia and other psychotic disorders (15.38%), bipolar affective disorder (13.19%), somatoform disorders and sleep related disorders (2.2%). Multiple psychiatric comorbidities were present in 13.19% study population. Studies by Shakya Dhana R et al, Da Cruz EL et al, Sharma B et al, Kattukulathil et al, Singh A et al. also reported similar prevalence of psychiatric comorbidities. [38,39,33,6,40]

Majority (92.50%) of the participants in our study had one or more personality profiles as measured on IPDE. The most common personality profile found in our study was Schizoid (64.0%) followed by Anankastic (56.0%), Paranoid (55.5%), Anxious (55.0%), Histrionic and Dependant (49.0% each). High prevalence of personality disorders comorbid with AUD is reported by Preus UW et al. [41] Sexual dysfunction was observed in 28.50 % of study population with majority of them having problems in desire (43.86%) and penile erection or vaginal lubrication (42.11%). In consistent to our findings of higher prevalence of problems with desire and erectile dysfunction, many previous studies observed that problems with desire were commonest sexual dysfunction. [42,43]

In our study, the QoL score in patients of AUD was comparable on all domains of WHOQOL-BREF scale. Consistent to our findings, Peltzer K et al did not find a significant association between alcohol use and HRQoL (physical and mental health) in hospital out-patient population with AUD in South Africa as measured by the SF-12 Health Survey. [17] Similarly, a study by Muller AE et al found no correlation between active substance use or its treatment variables to the physical health, psychological health or social relationships domains of QoL. [44]

In our study, it was observed that one third of participants with dependence pattern and nearly half of participants with harmful pattern of alcohol consumption reported sexual dysfunction on ASEX Scale. Kaur N et al observed that the prevalence of sexual dysfunctions was 23.07% in persons with mild alcohol dependence, 50% in persons with moderate alcohol dependence, and around 26.9% in persons with severe alcohol dependence.^[14] On comparing patterns of alcohol consumption with quality of life, participants having hazardous pattern of alcohol consumption had higher mean scores on all four domains i.e. physical health, psychological, social relationships and environment. Okoro CA et al reported similar findings in their study.^[45] Despite its merit, this study has few limitations. It was a hospital-based study; thus, results cannot be generalised in community. It was cross – sectional study hence, course of the illness cannot be commented upon. Furthermore, IPDE scale is a screening questionnaire, not a diagnostic tool.

Conclusion

In current study, the majority of the sample population with AUD constituted middle- aged males with most common pattern of alcohol consumption being dependence and hazardous use. Psychiatric comorbidities were common in AUD patients, with significant number of study population having one or more personality profiles. Most common sexual dysfunction reported were problems in desire and erectile dysfunction/vaginal lubrication. The mean scores on WHOQOL-BREF scale were comparable on all domains. Absence of sexual dysfunction and psychiatric co-morbidities predicted better QoL. The current study throws light in estimating public health consequences of alcohol use in terms of psychiatric co-morbidity, sexual dysfunction and resulting influence on patient's QoL.

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