Journal of Population Therapeutics & Clinical Pharmacology

RESEARCH ARTICLE
DOI: 10.53555/kqfx1h31

A COMPARATIVE ANALYSIS OF QUALITY OF LIFE AMONG INDIVIDUALS WITH OPIOID AND ALCOHOL DEPENDENCE SYNDROMES

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Abstract:

Background and Objectives: Substance use disorders, particularly those involving alcohol and opioids, significantly impact individuals' quality of life (QoL), affecting physical, psychological, social, and environmental domains. Both alcohol and opioid dependence syndromes (ADS and ODS) lead to considerable morbidity and mortality, but their effects on QoL vary due to differences in pharmacological properties and social consequences. This study aims to compare the QoL in patients with ADS and ODS, highlighting specific life aspects more adversely affected by each disorder. Understanding these differences will inform tailored interventions, improve public health strategies, and enhance support services, contributing to better management and rehabilitation of individuals with SUDs.

Materials and Methods: This cross-sectional study, conducted at the Department of Psychiatry, Mahatma Gandhi Medical College and Hospital, Jaipur, Rajasthan, included 100 participants: 50 diagnosed with ADS and 50 with ODS, as per ICD-10 criteria. All participants met the study's inclusion and exclusion criteria. Sociodemographic and clinical characteristics were assessed using a sociodemographic proforma, and the WHOQOL-BREF scale was used to evaluate their QoL.

Results: The majority of patients were men (96%), with mean ages of 34.7 years (ADS) and 32.0 years (ODS). Statistically significant differences in QoL scores were observed between ADS and ODS patients across WHOQOL-BREF domains: physical (ADS: 63.7, ODS: 48.6), psychological (ADS: 63.7, ODS: 37.1), social relationships (ADS: 69.3, ODS: 38.6), and environment (ADS: 74.9, ODS: 51.3), with p-values < 0.0001. Gender and family type influenced QoL in ADS patients, while no sociodemographic parameters influenced ODS patients.

Conclusion: Substance use disorders negatively impact QoL, with opioid use disorder having a more severe effect. Comprehensive, tailored treatment is essential for addressing the unique challenges of each group.

Keywords: Alcohol Dependence Syndrome, Opioid Dependence Syndrome, Quality of Life, Substance Use Disorder

Introduction

Illicit drug use significantly impacts global morbidity, mortality, disability, and disease burden, making it a critical public health issue.[1] WHO reports that 5.6% of the global population aged 15 to 64, about 275 million people, used illegal drugs at least once in 2020.[2] In India, alcohol, embedded in social customs and daily life, is the most commonly consumed psychoactive substance, followed by opioids, including heroin and pharmaceutical opioids.[3,4] Among Indians aged 10 to 75, 14.6% consume alcohol, while 2.1% use opioids, with heroin being the most prevalent opioid (1.14%), followed by opium (0.52%) and pharmaceutical opioids (0.96%).[3] Alcohol use patterns vary by state and are influenced by availability, socioeconomic factors, and cultural norms. Research highlights alcohol's association with family discord and violence and explores the mental health impact of cannabis use among youth.[5,6]

Globally, alcohol is a leading risk factor for early death and disability among people aged 15-49.[7] Opioid use, particularly heroin and prescription opioids, increases addiction, overdose, and infectious disease risks.[8] Substance use disorders (SUDs) reduce quality of life (QoL) across mental, social, and financial domains. According to WHO, QoL reflects individuals' perceptions of their lives relative to cultural values and personal goals.[9] QoL is now widely used to assess the impact of illness on functioning, with particular emphasis on physical and psychological health.[10]

SUDs are linked to lower QoL across domains like academic, financial, and social functioning. Alcohol use can cause cumulative health and social issues, while opioid use more consistently affects QoL domains. Addiction's psychological and physical effects diminish QoL and life satisfaction.[11] WHOQOL-BREF, assessing physical, psychological, social, and environmental health, provides a comprehensive measure of patient well-being. Research underscores the need for targeted public health interventions to mitigate these impacts.[12]

This study addresses the need for comparative research on the distinct impacts of alcohol dependence syndrome (ADS) and opioid dependence syndrome (ODS) on quality of life (QoL) to develop targeted interventions, enhance treatment strategies, and inform public health policies that better address these disorders' unique challenges and improve patient well-being.

Materials and Methods

Study Design

This was a hospital-based cross-sectional comparative study conducted over 18 months, from September 2022 to February 2024, in the Department of Psychiatry at Mahatma Gandhi Medical College & Hospital, Jaipur, Rajasthan. Institutional Ethical Committee approval was obtained, and all participants provided written informed consent.

Sample Size

The study included 100 participants, with 50 diagnosed with Alcohol Dependence Syndrome (ADS) and 50 with Opioid Dependence Syndrome (ODS), according to ICD-10 criteria. Participants were recruited from the Psychiatry Outpatient (OPD) and Inpatient Department (IPD) services and diagnosed by consultant psychiatrists.

Subjects and Selection Criteria

Eligible participants were aged 18-64 years and met ICD-10 diagnostic criteria for ADS or ODS. Individuals with chronic medical illnesses were excluded to ensure the focus remained on the impact of substance dependence on quality of life (QoL) alone.

Inclusion Criteria

1. ICD-10 diagnosis of ADS or ODS
2. Age between 18 and 64 years, either gender

3. Provision of written informed consent

Exclusion Criteria

1. Evidence of chronic medical illnesses

Data Collection Instruments:

1. Consent Form: Consent was obtained in the participants' preferred language, either English or Hindi, after ensuring they understood the study's objectives, risks, and benefits.

2. Semi-structured Proforma for Socio-demographic and Clinical Variables: This proforma captured demographic information (e.g., age, gender, marital status, socioeconomic status) and clinical details, including illness duration, abstinence attempts, family history of substance use, and mental status examination.

3. WHOQOL-BREF Scale [13]: The WHOQOL-BREF, a validated tool derived from the original WHOQOL-100, measures QoL across four domains: physical health, psychological health, social relationships, and environmental factors. This scale transforms scores in each domain to a 0-100 scale, with high internal consistency as indicated by Cronbach's alpha values. The scale enables a holistic evaluation of QoL, where the physical health domain has the greatest contribution, and social relationships contribute least.

Statistical Analysis

Data were entered into Microsoft Excel and analyzed using SPSS version 27.0. Descriptive statistics, including mean and standard deviation, were used for continuous variables, while counts and percentages were reported for categorical data. To assess differences in QoL scores between ADS and ODS groups, two-sample t-tests were applied, which helped in identifying significant differences in the impact across various QoL domains. Chi-square tests were employed for comparing categorical data proportions.

A significance threshold of $p < 0.05$ was applied, indicating statistically significant differences where applicable. The statistical tests were used to rigorously examine the data, providing insights into how each disorder affects different QoL domains. These findings support the development of targeted intervention strategies that address the specific needs of each patient group.

Results

The Table 1 shows a comparative distribution of demographics, socio-economic status, and clinical characteristics among patients with Alcohol Dependence Syndrome (ADS) and Opioid Dependence Syndrome (ODS). Most patients in both groups are between 21-40 years old, predominantly male, and married. Hindu religion and nuclear family type are common. ADS patients show a higher employment rate (80%) than ODS patients (60%) with a significant p-value (0.02). Monthly income is generally above 10,000 INR for both groups. In terms of illness duration, ODS patients have a higher proportion within the 1-5 year range compared to ADS. Attempts to remain abstinent are similar across groups.

Table 1: A comparative distribution of sociodemographic and Clinical Variables

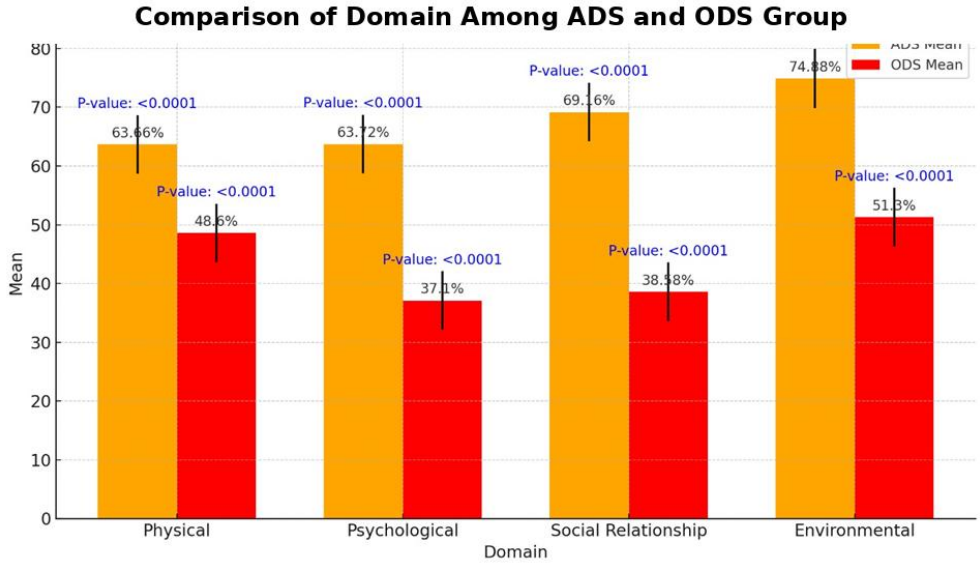
Category	Subcategory	ADS	ODS	P-value
Age Group (years)	≤20 years	3 (6%)	2 (4%)	0.2037
	21-40 years	34 (68%)	40 (80%)	
	41-60 years	12 (24%)	7 (14%)	
	≥61 years	1 (2%)	1 (2%)	
	Mean ± SD	34.74 ± 11.08	32.04 ± 9.99	
Gender	Male	48 (96%)	48 (96%)	1.0
	Female	2 (4%)	2 (4%)	
Marital Status	Unmarried	12 (24%)	12 (24%)	1.0
	Married	38 (76%)	38 (76%)	
Religion	Hindu	48 (96%)	46 (92%)	0.3997
	Muslim	2 (4%)	4 (8%)	
Employment	Employed	40 (80%)	30 (60%)	0.02

	Unemployed	10 (20%)	20 (40%)	
Education	Elementary	2 (4%)	6 (12%)	0.2695
	Secondary	16 (32%)	11 (22%)	
	Senior Secondary	24 (48%)	21 (42%)	
	Graduate	8 (16%)	12 (24%)	
Family Type	Nuclear	22 (44%)	19 (38%)	0.5419
	Joint	28 (56%)	31 (62%)	
Monthly Income (INR)	<900	0 (0%)	3 (6%)	0.5199
	900-3000	0 (0%)	0 (0%)	
	3000-9999	3 (6%)	3 (6%)	
	10000-20000	21 (42%)	18 (36%)	
	>20000	26 (52%)	26 (52%)	
Duration of Illness	<1 year	4 (8%)	2 (4%)	0.0785
	1-5 years	14 (28%)	26 (52%)	
	6-10 years	23 (46%)	18 (36%)	
	>10 years	9 (18%)	4 (8%)	
Abstinent Attempts	0-2	37 (74%)	38 (76%)	0.5924
	3-5	12 (24%)	11 (22%)	
	>6	1 (2%)	1 (2%)	

The Table 2 compares the quality of life across four domains (Physical, Psychological, Social Relationships, and Environmental) between patients with Alcohol Dependence Syndrome (ADS) and Opioid Dependence Syndrome (ODS). ADS patients report significantly higher mean scores across all domains, indicating better quality of life than ODS patients, with all p-values <0.0001, showing statistical significance. Specifically, ADS patients score 63.66 in the Physical domain compared to 48.60 for ODS, and 63.72 versus 37.10 in the Psychological domain. In the Social Relationships domain, ADS patients average 69.26, while ODS patients score 38.58. The Environmental domain shows the highest difference, with ADS scoring 74.88 compared to 51.30 for ODS, suggesting that ADS patients experience fewer adverse impacts on quality of life in these areas.

Table 2: Comparison of domains among ADS and ODS group

	ADS		ODS		P-value
	Mean	SD	Mean	SD	
Domain 1 (Physical)	63.66	4.60	48.60	16.89	<0.0001
Domain 2 (Psychological)	63.72	5.47	37.10	10.90	<0.0001
Domain3 (Social Relationship)	69.26	6.10	38.58	14.27	<0.0001
Domain 4 (Environmental)	74.88	3.32	51.30	9.13	<0.0001



Discussion

This study investigates the quality of life (QOL) in patients with opioid dependence syndrome (ODS) and alcohol dependence syndrome (ADS), comparing it to that of normal individuals. Quality of life, influenced by physical and mental health, social ties, and environment, is essential for understanding the broader impacts of substance use disorders. The World Health Organization (WHO) underscores QOL assessments as they reveal treatment outcomes beyond clinical indicators. Evaluating QOL in substance-dependent individuals identifies areas needing intervention and reflects the success of treatment programs, as improvements often signify well-treated or recovering patients. Various studies have reported a lower QOL in those with alcohol or opioid dependence, underscoring the importance of holistic treatment addressing both psychological and physical aspects of patient care.[14]

In our study, the mean age for ADS patients was 34.74 years, and for ODS patients, 32.04 years, aligning with previous research suggesting that substance abuse peaks in early to mid-thirties. Mohammadi et al. reported an average ADS patient age of 31, while Patra et al. found that men with alcohol dependence tended to be older than those with opioid dependence, possibly due to social and psychological patterns linked to substance choice.[15,16] The findings in our study concur with Basu et al., who recorded a similar age range in substance use disorder patients.[17]

Male predominance was observed in both ADS and ODS categories, reflecting a common trend among treatment-seeking individuals in India. Basu et al. reported a similar male predominance and this gender disparity likely arises from higher substance use rates among men, societal norms that are more accepting of male substance use, and the stigma surrounding women with substance use disorders. Women face unique treatment barriers such as social rejection and lack of support systems, which, combined with limited healthcare access, further skew gender ratios in substance use treatment facilities.[17]

Higher rates of substance dependence were noted among married, Hindu, unemployed, and educated individuals in our sample. Substance use among married individuals may be influenced by family and social factors. The prevalence of Hindu participants reflects the demographic composition of the study area rather than a religious link to substance use. The association with unemployment points to the psychological and social challenges it brings, including stress and low self-esteem, which may drive individuals to substance use as a coping mechanism.[18,19] Hashmimohammadabadi and Mohammadi reported a similar pattern of educational attainment, finding most substance users had high school diplomas. Limited educational attainment may reduce opportunities and foster substance use, as supported by Hojati et al., who linked low education with higher substance use rates.[20]

Our study found substance use more prevalent among individuals from low-income joint families, suggesting that the financial and interpersonal stresses associated with larger family structures may contribute to substance use. The mean QOL scores for ADS patients in our study were 69.26 in the social domain, 63.72 in psychological, 74.88 in environmental, and 63.66 in physical. These findings reveal the multifaceted impact of alcohol dependence on life aspects, with the physical domain indicating substantial health issues likely due to lifestyle factors and alcohol's direct effects on the body. The psychological domain suggests significant emotional issues, including depression and anxiety, while the social domain reflects strained relationships due to stigma and conflict associated with substance abuse. Environmental scores highlight daily life challenges like financial instability.

For ODS patients, average scores were 51.30 in the environmental domain, 38.58 in social, 37.10 in psychological, and 48.60 in physical, highlighting the profound effects of opioid use across life domains. Low physical scores suggest severe health issues such as chronic pain, infections, and overall decline. Psychological scores indicate high levels of mental health issues, including anxiety and depression. Social domain scores reveal significant isolation and relationship issues worsened by stigma, while environmental scores suggest poor living conditions, often exacerbated by homelessness, financial instability, and limited access to services. Katibei et al. and Dash and Swain also reported poor QOL across domains in substance-dependent patients.[21,22] Similarly, Shrivastava et al. noted low QOL among alcohol-dependent individuals, emphasizing the necessity for treatment approaches addressing physical, psychological, social, and environmental components of patient care.[23]

When comparing QOL domains, ADS patients exhibited a slightly better QOL than ODS patients, despite opioids' severe health impacts. Shariff et al. found no significant differences between ADS and ODS patients in burden and QOL domains, suggesting that substance misuse generally leads to poor outcomes, regardless of type. Habrat et al.'s study at AIIMS revealed significant caregiver distress associated with opioid dependence, highlighting its broader impact.[24] Opioid-dependent individuals in methadone programs showed improved QOL over six to twelve months, suggesting that treatment can mitigate some negative effects.[25] Patra et al. highlighted similarly diminished QOL in both ADS and ODS patients, supporting the necessity for comprehensive treatment addressing both types of dependence.[16]

The physical QOL for ADS and ODS patients is severely impacted by the physiological effects of substances. Alcohol is linked with reduced liver function and can lead to hepatitis, cirrhosis, and liver cancer. Additionally, alcohol impacts various bodily systems, causing cardiovascular and gastrointestinal problems and cognitive decline. Conversely, opioid use is associated with respiratory issues, higher susceptibility to infections, and chronic pain conditions. Substance use also impairs decision-making, making individuals more prone to risky behaviors such as driving while intoxicated, unsafe sexual practices, and violent actions, leading to legal and health complications that further reduce QOL.[26]

Domingo-Salvany et al. found that the combined use of multiple drugs negatively affected QOL, especially in young, low-income individuals. Substance dependence not only impacts users but also affects their families, often leading to psychiatric disorders and a diminished QOL among relatives. Relatives of individuals with substance use disorders often face stress, social stigma, and financial burdens, exacerbating family distress.[27]

This study illustrates the severe impact of alcohol and opioid dependence on QOL, particularly in physical, psychological, social, and environmental domains. Comprehensive treatment approaches addressing these domains are essential for managing substance use disorders effectively. Gender-specific interventions could be beneficial, addressing the unique challenges women face in treatment, and support for unemployed individuals could mitigate some of the social and economic factors influencing substance use. Improving QOL for substance-dependent individuals remains a key goal, requiring collaborative efforts among healthcare providers and policymakers. This approach will ensure a holistic response to the multifaceted needs of individuals with substance use disorders.

Conclusion

This study, conducted in a private-sector tertiary care hospital in Jaipur, examined the quality of life (QOL) in patients with alcohol dependence syndrome (ADS) and opioid dependence syndrome (ODS). Limitations include a small sample size, cross-sectional design, absence of a control group, and exclusion of psychiatric morbidity, which restrict generalizability and control for confounding variables. Despite these limitations, the findings emphasize the need for tailored treatment approaches, with distinct interventions for ADS and ODS patients to address unique impacts on QOL. For example, ODS patients may benefit from employment support and mental health interventions. Recognizing substance dependence as a chronic condition, the study suggests long-term care incorporating mental health services. Future research should adopt longitudinal designs, include larger and more diverse samples, integrate a control group, and focus on psychiatric comorbidities, multidimensional interventions, and policy implications for enhanced substance abuse care.

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