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Quality of life in patients with alcohol use disorders admitted to de-addiction centers using WHOQOL-BREF scale—A cross-sectional study

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Abstract:

BACKGROUND: Alcohol use disorders (AUDs) adversely affect a person's general health and the lives of their family and friends. These disorders are also the most undertreated mental illness with severe implications for public health. Hence, the present study aimed to employ the WHOQOL-BREF to assess the quality of life (QoL) of AUDs patients seeking treatment at de-addiction centers and identify the demographic variables associated with the QoL dimension scores.

MATERIALS AND METHODS: A cross-sectional study was conducted among alcohol dependents taking treatment in de-addiction centers in Dakshina Kannada District, Karnataka. The WHOQOL-BREF questionnaire was administered to 124 subjects. Multiple regression analysis was carried out to identify the demographic variables associated with the QoL dimension scores.

RESULTS: The domain mean scores were between 50 and 60 on the 0 to 100 scale. Age, social class, residential area, marital status, and years of drinking were the demographic variables found to be significantly associated with the dimension scores.

CONCLUSIONS: Physicians should monitor the effect of alcoholism on QoL, and a multidisciplinary treatment plan with elements from the medical, social, and psychiatric fields should be used. The demographic variables should be considered while managing patients with AUDs.

Keywords:

Alcohol abuse, alcohol disorders, quality of life, WHOQOL-BREF

Introduction

Alcohol use disorders (AUDs) are among the most common mental illnesses worldwide and primarily affect men. Such conditions impede a person's ability to control their alcohol intake. Despite severe adverse effects on their general health, the lives of their family and friends, and society at large, they consistently display a substantial and frequently growing pattern of alcohol use.[1] AUDs are one of the most undertreated mental illnesses with serious implications for public health.[2] Loss of control over alcohol consumption, compulsive alcohol use, and a negative emotional state when not drinking are characteristics of AUDs, which can have a long-term, recurrent course. AUDs are defined by the Diagnostic and Statistical Manual of Mental Disorders (DSM) and the International Classification of Diseases (ICD) by operational criteria: "continued alcohol use despite negative psychological, biological, behavioral, and social consequences, of which a minimum number must be met during the same 12-month period to qualify for the diagnosis."[3]

The World Health Organization's (WHO) Global status report on alcohol and health of 2018 presents a comprehensive report

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on alcohol consumption and states that more than 3 million people die every year due to the harmful use of alcohol. This represents 1 in 20 deaths, implying that AUD is a serious global disease that burdens and threatens the development of healthy societies.[4,5] The WHO defines health as complete physical, mental, and social well-being and not merely the absence of disease or infirmity.[6] The concept of quality of life (QoL) is becoming an essential outcome measure of health care and is employed to attain the patient's subjective view of overall well-being. It serves as an additional perception to a conventional disease-specific perspective. This comprehensive evaluation is instrumental in improving patient living conditions, recognizing that measures of disease status alone are insufficient to describe the burden of illness.[7]

Since AUD can severely affect patients and their families, a comprehensive method such as QoL measurements should be used to quantify the improvement in their treatment outcome. Donovan and colleagues claim that while evaluating individuals with AUD, QoL is a crucial component. Clinically, these measurements can help encourage patients to persist with their treatments and quit their alcohol misuse or dependence.[8]

QoL has slowly but surely become a valuable concept during the past two decades, used in clinical trials for therapeutic interventions or as an outcome indicator for evaluating services and programs. It estimates how an illness affects a person's daily functioning, paying close attention to physical or psychological impairments.[9]

WHO claims that QoL aids in evaluating an individual's perceptions in light of their culture, value systems, and personal objectives. As a result, WHOQOL instruments were created collaboratively in numerous centers across the globe and underwent extensive field testing.[10] Since the WHOQOL-BREF is a condensed form of the original instrument, it is more practical. It has numerous uses in research investigations and clinical trials and comprises 26 items. Important domains like physical health, psychological health, social health, and environment are measured by the WHOQOL-BREF instrument. Hence, it gives us an insight into the overall well-being of the patients. All healthcare centers should restore physical health and enhance the QoL to attain a state of overall well-being.[11]

QoL has been shown to decline in studies on alcohol-dependent people, but little is known about how QoL changes after a treatment intervention. There is a dearth of material on the QoL in treatment centers for alcoholism. Hence, this study aims to employ the WHOQOL-BREF to assess the QoL of AUD patients seeking treatment at de-addiction centers and identify the demographic variables associated with the QoL dimension scores.

Materials and Methods

Study design and setting

This descriptive cross-sectional study was conducted from January 2022 to May 2022 among Alcohol dependents taking treatment in de-addiction centers in Dakshina Kannada District, Karnataka State.

Study participants and sampling

The study participants were alcohol dependents taking treatment in de-addiction centers. This included male and female patients aged between 18 years and 76 years admitted to the de-addiction center for a duration of fewer than 4 weeks with a diagnosis of Mental and Behavioral disorders due to the use of alcohol (ICD-10 F10.2). While patients with a history of multiple substance abuse/dependence except for tobacco, patients with other co-morbid psychiatric illnesses, patients with any known neurological condition, withdrawal symptoms, uncooperative patients, and seriously ill patients were excluded from the study.

The sample size required to estimate the WHOQOL-BREF domain scores with an error margin of 20% of the standard deviation at 95% confidence level is 97. Green suggests n >104 + m (where m is the number of independent variables) for testing individual predictors in regression analysis. The sample size required for regression analysis in the present study was 110 (m = 6, the number of demographic variables).[12] A total of 124 subjects responded to the present study.

Data collection tool and technique

The data collection tools used in this study included sociodemographic details which included gender, age, marital status, social class, residential area, and years of drinking, and the 26-item WHOQOL-BREF questionnaire. The appropriate data collection was carried out by interviewing every patient and maintaining strict privacy, confidentiality, and empathy.

The modified Kuppuswamy scale (update for February 2019) was used to assess the social class of the participants. The WHOQOL-BREF questionnaire contained 26 items across all four domains and a self-assessment section, and responses were recorded using an individual five-point scale (1–5). The four domain scores represent an individual's perception of each domain's QoL.

Ethical consideration

After getting approval from the institutional ethics committee (IEC/ENDO21/101/V1), the study population was explained about the study, confidentiality, and their

rights to participate or not to participate in the study. Once the study participants had expressed willingness to participate, each participant filled out and signed an informed consent form.

Statistical analysis

The data analysis was carried out using the software *jamovi* (version 2.3), a free statistical software program. Demographic variables were summarized by computing frequency and percentages in each category. The three items, 3, 4, and 26 of WHOQOL-BREF, were reverse scored for the computation of domain scores and further analysis. Domain scores were computed and then transformed to 4–20 and a 0–100 scale, as explained in Appendix 10 (Page 106) of the WHOQOL user manual. The scores were summarized by computing mean and standard deviation. Multiple regression analysis was performed to identify the demographic variables associated with WHOQOL dimension scores.

Results

A total of 124 subjects responded to the present study: 92 were males, and 32 were females. The age range of the participants was 26 to 63 years, and the mean (SD) of the participants was 45.65 (8.66) years.

Reliability of the WHOQOL-BREF domains was assessed by computing Cronbach's alpha. The alpha coefficient for the sub-domains was physical, 0.54; psychological, 0.69; social, 0.57; and environmental, 0.53, respectively.

Table 1 shows the distribution of demographic characteristics.

Table 2 shows the summary of scores for the WHOQOL-BREF domains.

Mean and SD were computed for the transformed domain score (range 4–20) and for the percentage scale (score range 0–100) as specified in the WHOQOL User Manual, appendix 10.[13] The higher the domain score better the QoL. All the domain mean scores were between 50 and 60 on the 0 to 100 scale, indicating scope for improving QoL [Table 2]. Table 3 shows demographic variables associated with the physical dimension of quality of life. In the physical dimension, the younger age group (<45 years), lower social class, and participants residing in urban areas scored significantly higher score.

Table 4 shows demographic variables associated with the psychological dimension of QoL. In the psychological dimension, the participants of lower social class and those living in urban areas scored significantly higher. Table 5 shows demographic variables associated with the social dimension of QoL. In the social dimension, the participants who are married and participants drinking for less than five years scored significantly higher score. Table 6 shows demographic variables associated with the environmental dimension of QoL. In the environmental dimension, the participants of lower social class and

Table 1: Demographic characteristics of the participants

Characteristics	Frequency	Percentage
Gender		
Male	92	74.2
Female	32	25.8
Age in years		
<45	54	43.5
45 or More	70	56.5
Marital Status		
Married	102	82.3
Single*	22	17.7
Social Class		
Lower**	80	64.5
Upper***	44	35.5
Residential Area		
Rural	70	56.5
Urban	54	43.5
Years of Drinking		
<5	58	46.8
5 or more	66	53.2

*Represents Single, Separated, widow, and widower. **Represents a lower middle, upper lower, and lower class. ***Represents upper and upper middle class

Table 2: Domains and descriptive statistics (WHOQOL-BREF)

Domain	Transformed scores*			
	Domain score range 4–20		Domain score range 0–100	
	Mean	SD	Mean	SD
Physical	13.26	13.26	57.89	9.31
Psychological	12.01	12.01	50.07	11.31
Social Relations	12.09	12.09	50.54	13.84
Environment	12.28	12.28	51.76	8.53

*WHOQOL User Manual (1998), appendix 10[13]

Table 3: Demographic variables associated with physical dimension

Predictor	Estimate	SE	*t*	*P*	95% CI
Gender:					
Female–Male	2.32	1.97	1.175	0.242	-1.59 to 6.22
Age in years:					
<45–45 or More	5.29	2.33	2.277	0.025	0.69 to 9.90
Marital Status:					
Married–Single	2.04	2.16	0.944	0.347	-2.24 to 6.31
Social Class:					
Lower–Upper	4.60	1.80	2.555	0.012	1.03 to 8.17
Residential Area:					
Urban–Rural	4.59	1.88	2.440	0.016	0.87 to 8.31
Years of Drinking:					
<5 – 5 or more	-3.33	2.22	-1.499	0.136	-7.72 to 1.07

Table 4: Demographic variables associated with psychological dimension

Predictor	Estimate	SE	*t*	*P*	95% CI
Gender:					
Female–Male	0.939	2.42	0.389	0.698	-3.85 to 5.72
Age in years:					
<45 – 45 or More	5.179	2.85	1.819	0.072	-0.46 to 10.82
Marital Status:					
Married–Single	-0.367	2.64	-0.139	0.890	-5.60 to 4.87
Social Class:					
Lower–Upper	5.515	2.21	2.501	0.014	1.15 to 9.88
Residential Area:					
Urban–Rural	4.582	2.30	1.990	0.049	0.02 to 9.14
Years of Drinking:					
<5 – 5 or more	-0.678	2.72	-0.249	0.803	-6.06 to 4.70

Table 5: Demographic variables associated with social dimension

Predictor	Estimate	SE	*t*	*P*	95% CI
Gender:					
Female–Male	0.468	3.06	0.153	0.879	-5.60 to 6.54
Age in years:					
<45 – 45 or More	0.932	3.61	0.258	0.797	-6.22 to 8.08
Marital Status:					
Married–Single	7.160	3.35	2.137	0.035	0.53 to 13.8
Social Class:					
Lower–Upper	1.538	2.80	0.550	0.583	-4.00 to 7.08
Residential Area:					
Urban–Rural	-3.100	2.92	-1.062	0.291	-8.88 to 2.68
Years of Drinking:					
<5 – 5 or more	6.906	3.44	2.005	0.047	0.09 to 13.73

Table 6: Demographic variables associated with environmental dimension

Predictor	Estimate	SE	*t*	*P*	95% CI
Gender:					
Female–Male	0.7696	1.69	0.4562	0.649	-2.57 to 4.11
Age in years:					
<45 – 45 or More	0.9037	1.99	0.4544	0.650	-3.04 to 4.84
Marital Status:					
Married–Single	-2.9088	1.84	-1.5766	0.118	-6.56 to 0.75
Social Class:					
Lower–Upper	5.4750	1.54	3.5547	<.001	2.42 to 8.53
Residential Area:					
Urban–Rural	6.3789	1.61	3.9662	<.001	3.19 to 9.56
Years of Drinking:					
< 5 – 5 or more	0.0994	1.90	0.0524	0.958	-3.66 to 3.86

participants from urban areas scored a significantly higher score.

Discussion

Only a relatively small number of researches have been conducted on Indian patients with AUDs, despite the fact that the QoL of alcohol dependents is the most important component to examine. The SF-36 QoL questionnaire was frequently used to gauge QoL in the majority of national and international studies. WHOBRIEF-26 has only been used in a limited number of studies. The QoL is a crucial component in creating the management program and a valuable tool for interventional management. Few studies in India evaluated the association between sociodemographic variables and QoL among patients with AUDs.[14-16] Despite being subjective, the QoL measure is more valuable than other measures in determining how well a patient responds to treatment. Foster, Marshall, and Peters also suggested that patients be encouraged to enroll in an inpatient detoxification program by using the anticipated improvement in QoL.[17] This study sheds light on community alcohol abusers' QoL.

Participants in the current study were 45.65 years old on average, which is in line with the amount of time it takes to develop alcohol dependence.[18] The participants of the present study were those diagnosed with mental and behavioral disorders due to the use of alcohol and admitted to the de-addiction center for a duration of fewer than four weeks. According to research, patients have a poor QoL at the start of treatment, which improves after treatment completion. Numerous studies show that after therapy, QoL scores were on par with those of the general population after treatment.[19]

In the present study, all the domain mean scores were between 50 and 60 on the 0–100 scale, indicating the scope for improving QoL. This data is consistent with other studies, which showed that alcohol users had lower overall QoL scores than non-drinkers. Olickal *et al*.[20] observed a score range from 47.5 to 56.2 and Patkar *et al*.[16] reported a score range of from 34 to 38 among the alcohol users. Compared to other domains of QoL, the physical domain had the highest mean (SD) score in this study. This finding is similar to another study conducted in South India which assessed the association of alcohol use with QoL.[20] Numerous studies have found lower mean score in the physical domain compared to other domains.[21] In their analysis of the health-related QoL in adults with alcohol dependence, Daeppen *et al*.[22] found no appreciable differences in the physical QoL across people with various drinking habits. A frequent finding in other comparable research was that persons with alcohol dependency experienced an improvement in their mental health QoL during the 24 months of follow-up following an initial assessment.[23,24] Giri *et al*.[15] studied the QoL in alcohol-dependent men attending a de-addiction clinic in northern India and found similar QoL scores across subgroups of age, socioeconomic status, and locality. This is in contrast to the findings of the present study, wherein the participants belonging to the younger age group (<45 years), lower social class, and

participants residing in urban areas scored significantly higher in the physical domain.

QoL in the physical, psychological, and environmental dimensions was found to be significantly associated with the participant's age and was found to be comparatively poor among the older age group. The older age of the participants may indicate a longer duration of alcohol abuse. Reduced energy, sleep, and mobility associated with older age and alcoholism correlate with the poor physical domain. A similar finding was observed in a study by Morgan *et al*.,[25] where age significantly negatively affected the physical dimensional scores, with older patients scoring less. With age, memory concentration and learning ability may decline. Along with the poor mental status of patients with AUD, this may contribute to the poor psychological domain in the older age participants. The environmental factors such as financial resources, health, and social services also diminish in older individuals with AUDs which corresponds with the findings of our study. Lahmek *et al*.[26] used the SF-36 scale to conduct a prospective observational study on 414 alcohol-dependent patients hospitalized for three weeks. They discovered that various sociodemographic factors, including age >45, female gender, emotional isolation, and socio-professional category of laborer or employee, had an adverse impact on QoL. Another study in New Delhi found that older individuals with AUDs have substantial impairment in the work domain of WHODAS, signifying poor employability and productivity.[14]

In the present study, no significant difference in the domain scores was observed between genders. This is in contrast to studies by Lahmek *et al*.[26] and Morgan *et al*.,[25] which found that the female gender had a negative relationship with QoL.

In a de-addiction facility in northern India, Giri *et al*.[15] discovered a significant link between the QoL of alcohol-dependent men and their marital status, which indicated that married men have a superior social support system. Age of onset was positively correlated with both psychological health and social relationship status. This is in accordance with the present study's findings, where the married participants scored significantly higher in the social dimension. Social support can thus be considered a crucial element affecting the QoL of persons with alcohol dependence. Psychosocial intervention can enhance social support, improving AD subjects' QoL.

Assessing QoL among alcoholics before any intervention helps to determine the effectiveness of the intervention and quantify the improvement observed after the intervention with post-assessment of QoL. It also helps to identify the domain requiring intervention and the demographic variable associated with QoL. The present study shows that patients of older age groups require intervention in the physical, psychological, and environmental dimensions. Previous studies have established that increased or chronic alcohol use negatively correlates with overall QoL, supporting the unfavorable relationship between AUDs and high QoL. Alcohol consumption disorders may also cause social, familial, and employment challenges.[27]

Previous research had demonstrated that when participants refrained for three months or after following completion of therapy finished, QoL considerably improved in all domains.[19,28]

Limitations and recommendation

For this investigation, we used a sizeable sample and standardized tools. There are certain limitations, though. Since the QoL was self-reported, social desirability bias and under-reporting are potential possibilities. We should proceed with caution when extrapolating study results to other areas with differing regulations or cultural traits. A cause-and-effect relationship between several characteristics and alcohol consumption or dependency on QoL cannot be demonstrated due to the survey's cross-sectional design. Other variables, such as depression and physical inactivity, which may affect QoL, weren't examined but may exist. The QoL was not rechecked after the intervention. Only the participants who were seeking therapy could be addressed in this study due to logistical problems.

Conclusion

Since AUDs are risk factors for reduced QoL, improving the patient's QoL may aid in recovery from AUDs. Thus, the desire for a better life may spur a patient's recovery. Based on the results of this study, the effect of alcoholism on QoL should be monitored by physicians, and a multidisciplinary treatment plan with elements from the medical, social, and psychiatric fields should be used.

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Conflicts of interest

There are no conflicts of interest.

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