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ASSESSING QUALITY OF LIFE IN CHRONIC LIVER DISEASE PATIENTS: A CROSS-SECTIONAL STUDY IN A TERTIARY CARE SETTING

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ABSTRACT

Introduction: Chronic liver disease (CLD) is a global health concern, affecting over 844 million people worldwide and causing significant morbidity and mortality. The progressive nature of CLD profoundly impacts patients' quality of life (QoL), encompassing physical, mental, and social well-being. **Objective:** This study aimed to assess the QoL among patients with CLD attending a tertiary care hospital and identify factors influencing health-related QoL. **Methods:** A cross-sectional study design was employed, involving 58 patients diagnosed with CLD and categorized under Child-Turcotte-Pugh (CTP) Class B and C. Purposive sampling was used, and a self-structured QoL assessment tool, validated in both Hindi and English, was administered. The tool encompassed six domains: abdominal symptoms, emotional function, worry, fatigue, systemic symptoms, and activity. Statistical analysis included descriptive statistics and chi-square tests to explore associations. **Results:** The findings revealed that 65.52% of patients experienced a moderate QoL, 31.03% reported good QoL, and 3.45% had poor QoL. Factors such as religion, marital status, and monthly household income significantly influenced QoL. Hindus, married individuals, and those with higher incomes reported better QoL. **Conclusion:** CLD substantially affects patients' QoL, with demographic and socioeconomic factors playing a critical role. This study underscores the need for holistic care approaches, addressing both clinical and psychosocial dimensions, to improve outcomes for CLD patients.

KEYWORDS: Chronic Liver Disease, Quality of Life, Child-Turcotte-Pugh, Tertiary Care, Health-Related Quality of Life.

INTRODUCTION

Chronic liver disease (CLD) is a pervasive health concern that significantly affects global morbidity and mortality rates. As a progressive and often debilitating condition, CLD encompasses a spectrum of liver impairments, including cirrhosis, chronic hepatitis, and nonalcoholic fatty liver disease. The disease not only compromises physical health but also deteriorates patients' mental, emotional, and social well-being. Health-related quality of life (HRQoL) has therefore emerged as a crucial measure for understanding the multidimensional impact of CLD, as it goes beyond traditional clinical outcomes to encompass the overall patient experience.^[1] Evidence shows that CLD patients frequently experience severe fatigue, depression, anxiety, and a diminished capacity to engage in daily activities, all of which profoundly reduce their HRQoL.^[2] Such deficits are often exacerbated by disease progression, with patients in advanced stages reporting significant declines in physical, mental, and social functioning.^[3] These findings underscore the importance of comprehensive QoL assessments in guiding treatment strategies and enhancing patient-centered care.

Socioeconomic and demographic factors play a pivotal role in shaping the HRQoL of CLD patients. Variables such as income, employment status, and social support have been identified as key determinants, with lower socioeconomic status often correlating with poorer QoL outcomes.^[4] In addition, psychological distress, including preoperative depression and a lack of social support, has been associated with adverse long-term outcomes in liver disease patients.^[5]

Despite advances in medical and surgical interventions, the psychosocial dimensions of CLD remain inadequately addressed in clinical practice. Research highlights the need for integrated approaches that combine medical treatment with targeted psychological and social support programs. Such interventions have shown promise in improving compliance, rehabilitation, and overall QoL for patients undergoing liver-related treatments.^[6]

This study aims to evaluate the HRQoL of patients with CLD in a tertiary care hospital setting, providing insights into the specific areas most affected and identifying critical factors influencing QoL. By addressing these dimensions, the findings are intended to guide the development of holistic care strategies that prioritize not only the clinical but also the psychological and social needs of CLD patients.

METHODOLOGY

Study Design and Setting

This cross-sectional study was conducted in the gastroenterology department of a tertiary care hospital over a six-month period. The research aimed to evaluate the health-related quality of life (HRQoL) among patients diagnosed with chronic liver disease (CLD).

Sample Size and Sampling technique

A total of 58 patients with confirmed CLD were recruited using purposive sampling. Inclusion criteria included adults aged 18 years and above, diagnosed with Child-Turcotte-Pugh (CTP) Class B and C CLD, and willing to participate. Patients with concurrent severe psychiatric disorders or terminal illnesses were excluded.

Data collection tools

The HRQoL assessment was performed using a validated self-structured questionnaire tailored to CLD patients. The instrument was available in English and Hindi and consisted of six domains: abdominal symptoms, systemic symptoms, fatigue, emotional function, worry, and activity. Each domain was scored using a Likert scale, with higher scores indicating better QoL. Socio-demographic data, including age, gender, income, marital status, and religion, were collected using a structured demographic questionnaire.

Ethical considerations

Ethical clearance was obtained from the institutional ethics committee. Written informed consent was secured from all participants before enrollment. Confidentiality and anonymity were strictly maintained throughout the study.

Statistical analysis

Data were analyzed using SPSS version 25. Descriptive statistics, including means, frequencies, and percentages, were used to summarize data. The chi-square test was employed to assess associations between socio-demographic variables and HRQoL domains. A p-value of <0.05 was considered statistically significant.

RESULT

 Table 1: Socio-Demographic and Clinical Characteristics of Patients (n=58).

Variable	Category	Frequency (f)	Percentage (%)
Age (years)	Mean ± SD	-	50.5 ± 13.3
Gender	Male	38	65.5
	Female	20	34.5
Marital Status	Married	45	77.6
	Single	13	22.4
Monthly Income (INR)	Mean \pm SD	-	$20,000 \pm 5,000$
Religion	Hindu	40	69.0
	Muslim	15	25.9
	Other	3	5.1
Educational Status	Literate	48	82.8
	Illiterate	10	17.2
Duration of Illness (months)	Mean \pm SD	-	24.3 ± 8.7
CTP Classification (Child-Turcotte-Pugh)	Class A (Mild)	0	0.0
	Class B (Moderate)	33	56.9
	Class C (Severe)	25	43.1
Comorbidities	Diabetes	12	20.7
	Hypertension	15	25.9
	No Comorbidities	31	53.4

Quality of life domain	Mean ± SD
Abdominal symptoms	16.2 ± 4.3
Systemic symptoms	18.7 ± 5.0
Fatigue	14.5 ± 3.8
Emotional function	19.2 ± 4.7
Worry	17.5 ± 3.9
Activity	15.8 ± 4.2

Table 2: Quality of life scores across domains.



Figure 1: Pie chart showing distribution of sample as per their QoL category.

Table 3: Associa	ation of Socio-Demog	graphic and Clinical	Variables with (DoL Scores.
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Variable	Chi-Square Value	df	p-Value	
Gender	2.56	1	0.112 ^{ns}	
Marital Status	5.34	1	0.021*	
Monthly Income	4.42	2	0.035*	
Religion	3.91	2	0.048*	
CTP Classification	9.78	1	0.002*	
Comorbidities	2.87	1	0.089 ^{ns}	

Table 4: Correlation of clinical parameters with quality of life.

Parameter	Correlation Coefficient (r)	df	p-Value
Duration of Illness (months)	0.36	56	0.012*
CTP Score	-0.42	56	0.003*
Albumin Levels	0.31	56	0.025*
Bilirubin Levels	-0.28	56	0.064 ^{ns}
INR	-0.22	56	0.089 ^{ns}

significant and NS= non significant (for p < 0.05, NS for p \ge 0.05).

DISCUSSION

Quality of life (QoL) in patients with chronic liver disease (CLD) is profoundly impacted by the disease's physical, emotional, and social consequences. Symptoms such as fatigue, abdominal discomfort, and emotional distress often reduce patients' ability to perform daily activities and engage in meaningful social interactions. Understanding these QoL deficits is crucial for guiding holistic and patient-centered care approaches.

Our study revealed that the majority of chronic liver disease (CLD) patients experienced moderate quality of life (QoL) (65.52%), while a smaller proportion reported

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good (31.03%) or poor QoL (3.45%). These findings align with Srivastava, who observed significant deficits in emotional and functional well-being among CLD patients, with moderate QoL being the most prevalent category.^[6] Similarly, Popovic et al. demonstrated reduced mental and physical components of HRQoL in their cohort, underscoring the universal impact of CLD on patients' well-being.⁷ Contrastingly, Jyoti et al. reported a higher prevalence of good QoL among their participants, potentially reflecting differences in healthcare accessibility or study demographics.^[8] In our study, factors such as marital status, religion, and monthly income were significantly associated with QoL. Married patients and those with higher incomes reported better QoL scores. This is consistent with Souza et al., who found that higher income levels correlated positively with QoL.^[9] Cho et al. similarly identified employment and income as strong determinants of HRQoL, emphasizing the importance of economic stability.^[10] However, Gao et al. reported no significant association between marital status and QoL, suggesting potential cultural or demographic differences in the impact of social factorS.^[11]

Our study identified emotional and mental health domains as significantly impaired among CLD patients. This finding aligns with Srivastava, who highlighted emotional dysfunction as a critical deficit in HRQoL.^[6] Ong et al. also observed that mental health deteriorates earlier in disease progression, emphasizing the need for psychological interventions.^[12] Contrastingly, Younossi et al. found that the physical component of HRQoL was initially more affected, with emotional domains worsening only in advanced disease stages.^[13]

The Child-Turcotte-Pugh (CTP) classification in our study demonstrated that patients with CTP Class C had significantly lower QoL compared to Class B. Younossi et al. similarly observed a stepwise decline in QoL scores with increasing disease severity.^[13] Gao et al. reported that patients with ascites and hepatic encephalopathy, common in Class C, had significantly impaired physical and mental health.^[11] Conversely, some studies have noted relatively preserved QoL in early stages, underscoring the progressive nature of these deficits.^[12]

Our study utilized a self-structured QoL tool, consistent with validated instruments like the Chronic Liver Disease Questionnaire (CLDQ). Gralnek et al. demonstrated that the CLDQ is reliable for assessing domains such as fatigue, systemic symptoms, and worry.^[14] Similarly, Sumskiene et al. emphasized the importance of disease-specific tools for capturing nuanced patient experiences.^[15] However, Cirrincione et al. cautioned against over-reliance on cross-sectional data, advocating for longitudinal studies to better capture QoL changes.^[16]

The results of our study reinforce the necessity of integrating psychosocial support into routine CLD care. Targeted interventions addressing emotional health and socioeconomic barriers can significantly enhance patient outcomes. Sumskiene et al. suggested combining QoL assessments with clinical measures for comprehensive care planning.^[15] Gao et al. emphasized the predictive value of QoL scores for survival, urging clinicians to prioritize at-risk patients.^[11] Future research should focus on developing culturally tailored interventions to address the diverse needs of CLD patients.

Limitations

This study has limitations that should be acknowledged. The small sample size may restrict generalizability to broader populations, while the cross-sectional design does not allow for tracking QoL changes over time or exploring causal relationships. Additionally, reliance on self-reported data may introduce bias, highlighting the need for integrating objective clinical assessments in future research.

RECOMMENDATIONS

Several recommendations arise from our findings. First, routine psychosocial support, such as counseling and stress management programs, should be integrated into CLD care to address emotional and mental health deficits. Second, employing validated QoL tools like the Chronic Liver Disease Questionnaire (CLDQ) can enable regular and comprehensive monitoring of patient wellbeing. Lastly, addressing socioeconomic barriers and adopting culturally tailored interventions can enhance patient outcomes. Future research should focus on longitudinal designs to evaluate QoL changes and assess the impact of targeted interventions over time.

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