VOLUME - 14, ISSUE - 08, AUGUST - 2025 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Gastroenterology

QUALITY OF LIFE, PSYCHOSOCIAL BURDEN AND MENTAL HEALTH DISORDERS IN PATIENTS WITH CIRRHOSIS – A CROSS-SECTIONAL STUDY"

Dr. Mithun Mathiyazhakan	Senior Resident, Department Of Medical Gastroenterology, Chettinad Hospital And Research Institute, Chennai.
Dr. Avanish Tiwary	Senior Resident, Department Of Medical Gastroenterology, Chettinad Hospital And Research Institute, Chennai.
Dr. Vibuja Elangovan	Assistant Professor, Department Of General Medicine, Chettinad Hospital And Research Institute, Chennai.
Dr. T Pugazhendhi*	Professor And Head Of Department, Department Of Medical Gastroenterology , Chettinad Hospital And Research Institute, Chennai. *Corresponding Author

ABSTRACT Cirrhosis, the end stage of chronic liver disease, is associated with significant physical, psychological, and social morbidity. However, integrated assessment of these dimensions in Indian settings remains limited. This cross-sectional study was conducted at Chettinad Super Specialty Hospital (Feb 2024–Feb 2025), enrolling 100 cirrhotic patients. Participants were assessed using SF-36 for quality of life, GAD-7 for anxiety, and PHQ-9 for depression. Data were analyzed using SPSS v26. The mean age was 52.4 ± 10.2 years, with 65% males. Alcohol-related liver disease (45%) was the leading cause. Patients with advanced cirrhosis (CTP Class C) exhibited significantly lower QoL scores and higher anxiety (42%) and depression (38%). Lower socioeconomic status correlated with worse outcomes. This study highlights the considerable physical, emotional, and socioeconomic burden in cirrhotic patients, emphasizing the need for integrated, patient-centered care addressing both medical and psychosocial aspects.

KEYWORDS : Cirrhosis, Quality of Life, Psychosocial Burden, Mental Health, Depression, Anxiety, SF-36, GAD-7, PHQ-9

INTRODUCTION:

Cirrhosis represents the terminal stage of chronic liver diseases, characterized by the replacement of healthy liver tissue with fibrotic scar tissue, leading to compromised liver function. This progressive condition arises from various aetiologies, including chronic hepatitis infections, excessive alcohol consumption, and non-alcoholic fatty liver disease. As cirrhosis advances, patients often experience a spectrum of complications that extend beyond physiological impairments, significantly affecting their quality of life (QoL), imposing psychosocial burdens, and predisposing them to mental health disorders

This study endeavors to contribute to the existing body of knowledge by elucidating the complex interrelations between cirrhosis, QoL, psychosocial burden, and mental health. Such insights are essential for the development of comprehensive care strategies that encompass the full spectrum of challenges encountered by patients living with this chronic condition

MATERIALS AND METHODS :

A cross-sectional study was conducted at Chettinad Super Specialty Hospital (Feb 2024–Feb 2025), enrolling adults (≥18 years) with chronic liver disease (CLD) of varying etiologies and stages (CTP classification). Patients with severe cognitive impairment, terminal illness, or significant comorbidities were excluded. Informed consent was obtained. A total of 100 cirrhosis patients were consecutively recruited using OpenEpi-calculated sample size. SF-36, GAD-7, and PHQ-9 tools assessed QoL, anxiety, and depression. Data analysis included descriptive statistics, t-tests, ANOVA, and regression using SPSS v26. Ethical approval was obtained, ensuring confidentiality. CARE supported the study logistics.

RESULTS

Demographic And Clinical Characteristics:

A total of 100 patients with chronic liver disease (CLD) were enrolled. The mean age was 52.4 ± 10.2 years, with a male predominance of 65%. Alcohol-related liver disease was the most common etiology (45%), followed by non-alcoholic fatty liver disease (NAFLD) at 30%, and hepatitis B/C at 25%. Based on the Child-Turcotte-Pugh (CTP) classification, 40% were CTP Class A, 35% Class B, and 25% Class C.

Health-Related Quality of Life (HRQoL):

Patients were assessed using the SF-36 questionnaire. The most affected domains were general health perceptions (mean score 45.2 ± 12.3) and physical functioning (48.5 ± 11.7), indicating significant impairment in these areas. In contrast, social functioning (65.4 ± 10.8) and mental health (62.3 ± 9.5) scored relatively higher. However, these still reflect a noticeable decline compared to general population norms, highlighting the multidimensional burden of cirrhosis.

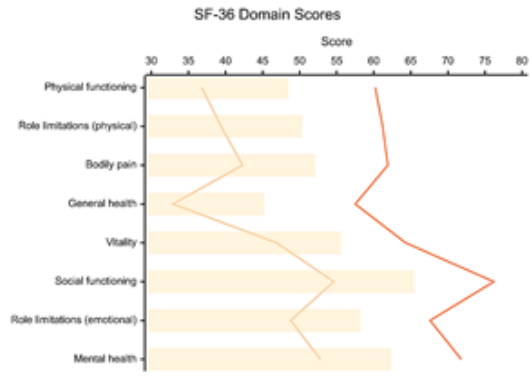

Figure 1

Anxiety And Depression Scores:

The mean Generalized Anxiety Disorder-7 (GAD-7) score was 8.2 ± 3.5, suggesting moderate anxiety levels. Moderate-to-severe anxiety (GAD-7 ≥10) was present in 42% of participants. Similarly, the mean Patient Health Questionnaire-9 (PHQ-9) score was 10.1 ± 4.2, indicating moderate depressive symptoms, with 38% of patients exhibiting moderate-to-severe depression (PHQ-9 ≥10).

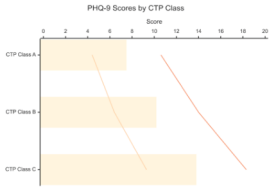

Figure 2

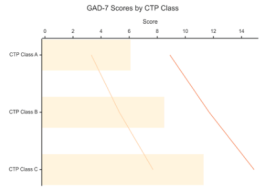

Figure 3

Association With Disease Severity (CTP Class):

Anxiety and depression scores correlated strongly with disease severity. Patients in CTP Class C had the highest anxiety (mean GAD-7 score 11.3 ± 3.6) and depression (mean PHQ-9 score 13.8 ± 4.5) compared to those in CTP Classes A and B. This trend underscores how advancing liver disease exacerbates psychological distress and deteriorates mental health.

Impact Of Socioeconomic Status (SES):

Socioeconomic status was a significant determinant of health outcomes. Patients from higher SES groups (Classes I and II) reported better HRQoL scores across all SF-36 domains, with notably higher physical functioning and general health perception scores. Conversely, those from lower SES groups (Classes IV and V) demonstrated severely impaired HRQoL.

Anxiety and depression prevalence also increased with decreasing SES. In Class V, 55% of patients experienced moderate-to-severe anxiety and depression. This reflects the compounded psychosocial stress due to limited resources, financial insecurity, and poor access to healthcare among economically disadvantaged groups.

Table 1: Association Between SES and Disease Severity (CTP Class)

SES Class	CTP Class A (%)	CTP Class B (%)	CTP Class C (%)
Upper class (I)	60%	30%	10%
Upper middle class (II)	50%	35%	15%
Lower middle class (III)	40%	40%	20%
Upper lower class (IV)	30%	45%	25%
Lower class (V)	20%	50%	30%

Furthermore, a significant association was noted between SES and disease severity. Patients from lower SES backgrounds were more likely to be classified as CTP Class C, indicating more advanced liver disease, while those in upper SES (Class I) had a higher prevalence of milder disease (CTP Class A).

DISCUSSION

This study provides valuable insights into the demographic, clinical, and psychosocial characteristics of cirrhosis patients, emphasizing the interplay between disease severity, socioeconomic status (SES), and mental health on health-related quality of life (HRQoL).

The study population comprised 100 patients (mean age 52.4 years; 65% male), with alcohol-related liver disease (45%) as the leading cause, followed by NAFLD (30%) and hepatitis B/C (25%). Disease severity distribution (CTP Classes A–40%, B–35%, C–25%) aligns with global trends, highlighting a significant burden of advanced disease.

HRQoL assessments revealed marked impairments in physical functioning and general health perceptions, particularly among CTP Class C patients, consistent with previous studies associating advanced cirrhosis with poor QoL due to fatigue, ascites, and hepatic encephalopathy. The negative correlation between disease severity and QoL underscores the need for early interventions to mitigate functional decline.

Mental health disorders were highly prevalent, with moderate-to-severe anxiety in 42% and depression in 38% of participants. Patients with advanced disease (CTP Class C) reported significantly higher anxiety and depression scores. This reflects the psychological toll of disease complications and the neuropsychiatric impact of liver dysfunction. The bidirectional relationship between liver disease and mental health highlights the necessity of integrating routine mental health screening into cirrhosis management.

Socioeconomic disparities significantly influenced patient outcomes. Lower SES groups (Classes IV and V) exhibited worse HRQoL and higher prevalence of anxiety and depression (55%), alongside more advanced disease presentations. Barriers such as limited healthcare access and financial constraints contribute to these disparities, necessitating targeted interventions like subsidized care and community support.

The Study Underscores Several Clinical Implications:

1. **Integrated Care Models**: Routine mental health screening (GAD-7, PHQ-9) and psychosocial support should be incorporated into cirrhosis care.
2. **Early Intervention**: Proactive management of complications and lifestyle interventions can improve QoL and slow disease progression.
3. **Socioeconomic Support**: Programs addressing financial barriers, education, and healthcare access are crucial to improve outcomes.
4. **Patient-Centered Care**: Individualized care plans considering physical and psychosocial needs are essential.

Limitations include the single-center, small sample size and cross-sectional design, limiting generalizability and causal inferences. Future multicenter longitudinal studies are needed to validate findings and explore targeted interventions addressing mental health and socioeconomic challenges in cirrhotic populations

CONCLUSION :

This study provides a comprehensive understanding of the multifaceted challenges faced by patients with chronic liver disease (CLD), particularly cirrhosis, and their impact on health-related quality of life (HRQoL), mental health, and socioeconomic well-being. The findings highlight cirrhosis as not only a physical illness but also a condition that significantly impairs psychological and social dimensions of patients' lives.

Disease severity, measured by the Child-Turcotte-Pugh (CTP) classification, was a critical determinant of HRQoL, with advanced stages (CTP Class C) associated with the greatest impairments in physical functioning and general health perceptions. Additionally, a high prevalence of anxiety (42%) and depression (38%) underscores the substantial mental health burden in this population, which is more pronounced in patients with advanced disease. This reflects the bidirectional relationship between liver dysfunction and psychological distress.

Socioeconomic status (SES) emerged as a significant factor influencing patient outcomes. Lower SES was linked to worse HRQoL, higher anxiety and depression scores, and more advanced disease stages. These disparities often result from financial constraints, limited healthcare access, and inadequate social support, contributing to poorer prognosis and quality of life among disadvantaged groups.

The study's findings have important clinical and policy

implications. Integrated care models that address both physical and mental health needs are essential. Routine mental health screening and early management of cirrhosis complications can enhance outcomes. Furthermore, targeted interventions to reduce socioeconomic disparities—such as financial aid, patient education, and community support—are critical to improving health equity.

Adopting a holistic, patient-centered approach is vital in managing cirrhosis. Addressing the physical, psychological, and socioeconomic challenges faced by patients can improve quality of life, reduce disease burden, and enhance long-term outcomes. Future research should focus on developing comprehensive interventions for this vulnerable population.

REFERENCES ;

1. GBD 2017 Cirrhosis Collaborators. The global, regional, and national burden of cirrhosis by cause in 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. Lancet Gastroenterol Hepatol. 2020;5(3):245-266. doi:10.1016/S2468-1253(19)30349-8.
2. Younossi ZM, Boparai N, Price LL, Kiwi ML, McCormick M, Guyatt G. Health-related quality of life in chronic liver disease: the impact of type and severity of disease. Am J Gastroenterol. 2001;96(7):2199-2205. doi:10.1111/j.1572-0241.2001.03956.x.
3. Nardelli S, Pentassuglio I, Pasquale C, et al. Depression, anxiety, and cognitive impairment in patients with cirrhosis: how common are they? Ann Hepatol. 2013;12(6):838-844. doi:10.1016/S1665-2681(19)31368-1.
4. Bajaj JS, Wade JB, Sanyal AJ. Spectrum of neurocognitive impairment in cirrhosis: implications for the assessment of hepatic encephalopathy. Hepatology. 2009;50(6):2014-2021. doi:10.1002/hep.23216.
5. Volk ML, Tocco RS, Bazick J, Rakoski MO, Lok AS. Hospital readmissions among patients with decompensated cirrhosis. Am J Gastroenterol. 2012;107(2):247-252. doi:10.1038/ajg.2011.314.
6. Nardelli S, Riggio O, Rosati D, et al. Hepatic encephalopathy is the major determinant of health-related quality of life in cirrhotic patients with ascites. Liver Int. 2011;31(5):722-729. doi:10.1111/j.1478-3231.2011.02488.x.
7. Kalaitzakis E, Josefsson A, Castedal M, Henfridsson P, Bengtsson M, Hägerstrand I. Hepatic encephalopathy is related to anemia and fat-free mass depletion in liver transplant candidates with cirrhosis. Scand J Gastroenterol. 2013;48(5):577-584. doi:10.3109/00365521.2013.776021.
8. Tsochatzis EA, Bosch J, Burroughs AK. Liver cirrhosis. Lancet. 2014;383(9930):1749-1761. doi:10.1016/S0140-6736(14)60121-5.
9. Friedman SL. Mechanisms of hepatic fibrogenesis. Gastroenterology. 2008;134(6):1655-1669. doi:10.1053/j.gastro.2008.03.003.
10. Schuppan D, Afdhal NH. Liver cirrhosis. Lancet. 2008;371(9615):838-851. doi:10.1016/S0140-6736(08)60383-9.
11. Asrani SK, Devarbhavi H, Eaton J, Kamath PS. Burden of liver diseases in the world. J Hepatol. 2019;70(1):151-171. doi:10.1016/j.jhep.2018.09.014.
12. Mokdad AA, Lopez AD, Shahraz S, et al. Liver cirrhosis mortality in 187 countries between 1980 and 2010: a systematic analysis. BMC Med. 2014;12:145. doi:10.1186/s12916-014-0145-y.
13. Younossi ZM, Koenig AB, Abdelatif D, Fazel Y, Henry L, Wymer M. Global epidemiology of nonalcoholic fatty liver disease—Meta-analytic assessment of prevalence, incidence, and outcomes. Hepatology. 2016;64(1):73-84. doi:10.1002/hep.28431.
14. D'Amico G, Garcia-Tsao G, Pagliaro L. Natural history and prognostic indicators of survival in cirrhosis: a systematic review of 118 studies. J Hepatol. 2006;44(1):217-231. doi:10.1016/j.jhep.2005.10.013.
15. Rehm J, Samokhvalov AV, Shield KD. Global burden of alcoholic liver diseases. J Hepatol. 2013;59(1):160-168. doi:10.1016/j.jhep.2013.03.007.
16. Gao B, Bataller R. Alcoholic liver disease: pathogenesis and new therapeutic targets. Gastroenterology. 2011;141(5):1572-1585. doi:10.1053/j.gastro.2011.09.002.
17. Stickel F, Datz C, Hampe J, Bataller R. Pathophysiology and management of alcoholic liver disease: update 2016. Gut Liver. 2017;11(2):173-188. doi:10.5009/gnl16477.
18. Stanaway JD, Flaxman AD, Naghavi M, et al. The global burden of viral hepatitis from 1990 to 2013: findings from the Global Burden of Disease Study 2013. Lancet. 2016;388(10049):1081-1088. doi:10.1016/S0140-6736(16)30579-7.
19. Pawlotsky JM, Negro F, Aghemo A, et al. EASL recommendations on treatment of hepatitis C 2018. J Hepatol. 2018;69(2):461-511. doi:10.1016/j.jhep. 2018.03.026.
20. Younossi ZM, Golabi P, de Avila L, et al. The global epidemiology of NAFLD and NASH in patients with type 2 diabetes: a systematic review and meta-analysis. J Hepatol. 2019;71(4):793-801. doi:10.1016/j.jhep.2019.06.021.
21. Younossi ZM, Blissett D, Blissett R, et al. The economic and clinical burden of nonalcoholic fatty liver disease in the United States and Europe. Hepatology. 2016;64(5):1577-1586. doi:10.1002/hep.28785.