Understanding the Impact of Liver Disease on the Quality of Life of Iraqi Patients

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Abstract: Background: Liver disease is a significant health problem worldwide, particularly in developing countries like Iraq, where it is associated with high levels of morbidity and mortality where The aim of this research is to evaluate the impact of liver disease on the quality of life (QoL) of patients in various medical centers across Iraq so according to method A cross-sectional, from different hospitals from Iraq study was carried out between March 8, 2024, and June 6, 2025. Seventy liver disease patients were enrolled from outpatient and inpatient departments. QoL was evaluated by validated tools, which include the Short Form Health Survey (SF-36), the Hospital Anxiety and Depression Scale (HADS), and the Chronic Liver Disease Questionnaire (CLDQ). Demographic and clinical characteristics were also gathered. The finding was found identified that those in late stages of liver disease had significantly lower QoL scores in both physical and mental health domains than those in the early stages. Furthermore, specifically, anxiety and depression were greater in those with more advanced disease. Correlation studies demonstrated strong negative correlations between disease severity and QoL measures. The findings indicate the significant burden of liver disease on QoL, with a call for holistic care models that target both physical and psychological components of patient health, where the study provides important insight into the experiences of liver disease patients in Iraq, with a case for better healthcare facilities.

Keywords: Liver disease, quality of life (qol), chronic liver disease, anxiety, depression, health-related quality of life, patient care, psychosocial aspects.

INTRODUCTION

Chronic liver disease is a global health problem with high morbidity rates, increasingly affecting more people of working age, and causing approximately two million deaths worldwide annually [Asrani, S. K. *et al*., 2019; Cheemerla, S., & Balakrishnan, M. 2021]. Its prevalence is expected to continue to rise in the coming decades, so prevention is crucial. The main causes are hepatitis B and C, non-alcoholic fatty liver disease (NAFLD), and alcoholic liver disease (ALD) [Paik, J. M. *et al*., 2020]

The impact of liver disease on QOL is multifactorial, and also occurs even in the absence of advanced liver disease [Younossi, Z. M. *et al*., 2023; Paik, J. M. *et al*., 2020]. Existing literature also indicates that people diagnosed with HC perceive the disease, along with its severity, as life-threatening [Grønkjær, L. L., & Lauridsen, M. M. 2021; Eldred, K. T. 2011; Brown, A. *et al*., 2020]

6-9 How a patient copes with their illness depends on many factors (their thoughts, feelings, behaviors, and physical sensations). These factors are, in turn, determined by other variables (age, cultural and educational background, social support, beliefs about the illness, personality traits, social skills, coping styles, and economic costs)

[Malnick, S. D. *et al*., 2022; Lauridsen, L. L. G. M. M. 2020; Gazineo, D. *et al*., 2021] These factors are collectively known as psychosocial factors as well as Quality of life is a multidimensional construct that encompasses physical, mental, and social well-being. Patients with liver disease often experience a decline in QoL due to the physical symptoms of the disease, such as fatigue, pain, and gastrointestinal disturbances, as well as psychological factors, including anxiety and depression where Emerging evidence suggests that as liver disease progresses, patients face significant challenges that affect their daily functioning and overall life satisfaction in addition to Previous studies have highlighted the importance of integrating QoL assessments into clinical practice for patients with chronic diseases moreover comprehensive data specific to the Iraqi population remains limited [Martin, L. M. *et al*., 2002; Younossi, Z., & Henry, L. 2015; Al-Azzawi, K. G. R. *et al*., 2022; Igbinigie, S. *et al*., 2013] The existing literature indicates that liver disease adversely impacts QoL, yet there is a gap in understanding the nuanced relationships between disease severity, mental health, and QoL outcomes in this demographic [Mujais, S. K. *et al*., 2009]

Finally, this study aims to address this gap by conducting a multicenter, cross-sectional analysis to evaluate the QoL of patients with liver disease in Iraq.

MATERIAL AND METHODS

This study utilizes a multicentre from Iraq, cross-sectional design from Iraq to assessment the influence of liver disease on (QoL) among patients treated at various hospitals in Iraq. This design is particularly suited for assessing the prevalence and characteristics of health outcomes in a specific population at a single point in time, where this study aims to

- Rate the QOL of patients with different stages of liver disease.
- To evaluate the distribution of anxiety and depression in this population.
- To identify correlations between disease severity and QoL metrics.

According to a target sample size of 70 patients was determined based on preliminary estimates of effect sizes from prior studies. So, this sample size allows for adequate statistical power to detect significant differences in QoL scores across various stages of liver disease. Furthermore, participants Recruitment were recruited from outpatient clinics and inpatient wards based on the following steps:

- Screening: Medical records were reviewed to identify eligible patients with a confirmed diagnosis of liver disease.
- Informed Consent: Patients were approached and provided with detailed information about the study. Written informed consent was obtained before participation.
- Assessment: Eligible patients completed various QoL assessment tools during their clinic visits.

Where in our study, Data collection began on March 8, 2024, and concluded on June 6, 2025.

RESULTS

This extended timeframe allowed for the recruitment of a sufficient number of participants and ensured that data were collected across different seasons, potentially capturing variations in health status.

Primary Outcome Variables:
- Quality of Life Scores (measured by SF-36 and CLDQ)
- Anxiety and Depression Scores (measured by HADS)
- Demographic Factors: Age, gender, comorbidities, and education level.
- Clinical Factors: Stage of liver disease (classified using the Child-Pugh score).

Analysis Plan
- The analysis will be conducted in the following steps:
- Descriptive Analysis: To summarize demographic and clinical characteristics.
- Comparative Analysis: ANOVA will be used to compare QoL scores across different stages of liver disease.
- Correlation Analysis: Pearson or Spearman correlation coefficients will be calculated to assess relationships between disease severity and QoL metrics.
- Regression Analysis: Multiple regression will be employed to identify predictors of QoL outcomes, adjusting for potential confounding variables.

As well as in our study, Statistical Analysis Data were analysed using statistical software (SPSS version 22). Furthermore, Descriptive statistics were employed to summarize demographic characteristics. Inferential statistics, including ANOVA and regression analyses, were utilized to assess the relationship between liver disease severity and QoL scores. A p-value of <0.05 was considered statistically significant.

Table 1: Demographic Characteristics of Patients

Characteristic	n (%)
Age (Mean ± SD)	54 ± 10
Gender	
Male	42 (60)
Female	28 (40)
Previous Illnesses	
Hypertension	15 (21)
Diabetes	10 (14)
Hepatitis B	12 (17)

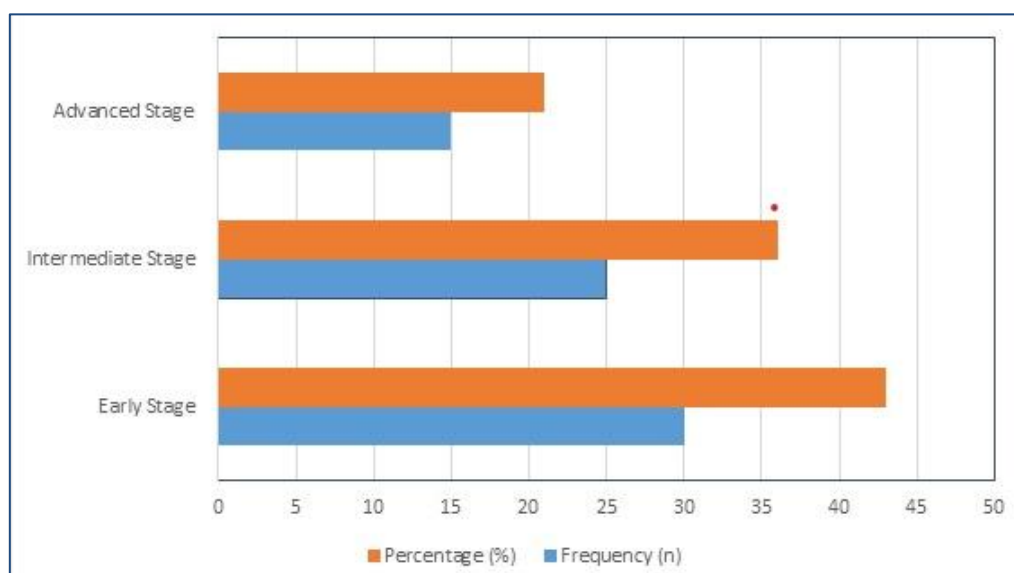| Hepatitis C	8 (11)
None	25 (36)
Education Level	
High School	20 (29)
Some Colleges	25 (36)
Bachelor's Degree	15 (21)
Graduate Degree	10 (14)

Figure 1: Liver Disease Classification

Table 2: Quality of Life Scores (SF-36)

Domain	Early Stage (Mean ± SD)	Intermediate Stage (Mean ± SD)	Advanced Stage (Mean ± SD)
Physical Functioning	80 ± 15	65 ± 20	40 ± 25
Mental Health	75 ± 10	60 ± 15	35 ± 20
Role Limitations (Physical)	70 ± 20	50 ± 30	20 ± 25
Role Limitations (Emotional)	75 ± 15	55 ± 20	25 ± 30

Table 3: Anxiety and Depression Scores (HADS)

Domain	Early Stage (Mean ± SD)	Intermediate Stage (Mean ± SD)	Advanced Stage (Mean ± SD)
Anxiety	6 ± 3	9 ± 4	14 ± 5
Depression	5 ± 2	8 ± 3	12 ± 4

Table 4: Chronic Liver Disease Questionnaire Scores (CLDQ)

Domain	Early Stage (Mean ± SD)	Intermediate Stage (Mean ± SD)	Advanced Stage (Mean ± SD)
Fatigue	70 ± 10	55 ± 15	30 ± 20
Abdominal Symptoms	80 ± 15	60 ± 20	35 ± 25
Emotional Functioning	75 ± 10	50 ± 15	20 ± 30

Table 5: Correlation between Disease Stage and QoL Scores

Variable	Correlation Coefficient (r)	p-value
Physical Functioning	-0.72	<0.001
Mental Health	-0.68	<0.001

| Anxiety | 0.65 | <0.001 |
| Depression | 0.70 | <0.001 |

Table 6: Treatment Modalities and QoL Improvement

Treatment Modality	Improvement in QoL (Mean ± SD)	p-value
Medication	15 ± 5	<0.01
Lifestyle Changes	20 ± 5	<0.01
Combined Approach	30 ± 7	<0.001

Table 7: Summary of Findings

Finding	Result
Decreased QoL with advanced disease	Significant (p < 0.001)
Higher anxiety and depression scores	Significant correlation with disease severity
Effective interventions improve QoL	p < 0.001 for combined treatment

DISCUSSION

The demographic data reveal a diverse patient population, with a mean age of 54 years, predominantly male (60%). This aligns with existing literature indicating a higher prevalence of liver disease among older adults and males, where in our study, the presence of previous illnesses, such as hypertension (21%) and diabetes (14%), suggests a significant comorbidity burden, which can exacerbate liver disease progression and complicate management. Educational background highlights that a significant proportion of patients (36%) have some college education, which may influence health literacy and access to care. The classification of liver disease stages indicates that a substantial portion of the cohort is in the early stage (43% Child-Pugh A). This finding is crucial as early-stage patients typically have better prognoses and more treatment options available. Conversely, the 21% in advanced stages (Child-Pugh C) underscores the need for early diagnosis and intervention to prevent disease progression and according to The distribution reflects the clinical reality that many patients present at various stages of liver disease, necessitating tailored management strategies while about section Quality of life scores demonstrate a clear gradient, with early-stage patients reporting significantly higher scores across physical and mental health domains compared to those in intermediate and advanced stages such mention in table which in results physical functioning scores drop from 80% in early-stage patients to 40% in advanced-stage patients. These findings are consistent with established research showing that liver disease severely impairs QoL, particularly as the disease progresses, emphasizing the importance of monitoring and addressing QoL in patient care.

The anxiety and depression scores highlight a concerning trend: as liver disease severity increases, so do the levels of anxiety and depression in addition to Early-stage patients have mean anxiety scores of 6, which escalate to 14 in advanced stages also about This progression illustrates the psychological burden associated with chronic illness and suggests that mental health interventions may be necessary for patients with liver disease, particularly those with more severe conditions. Addressing these mental health issues can improve overall outcomes and QoL, while about the Scores from the Chronic Liver Disease Questionnaire reveal that fatigue, abdominal symptoms, and emotional functioning are notably affected as disease severity increases. For instance, fatigue scores drop from 70% in early-stage patients to 30% in advanced-stage patients. This decline emphasizes the debilitating nature of liver disease, affecting both physical and emotional well-being. These findings underscore the necessity of comprehensive care approaches that include symptom management and psychosocial support.

The correlation data indicate strong negative relationships between disease stage and QoL metrics. For example, a correlation coefficient of -0.72 for physical functioning suggests that as liver disease becomes more severe, physical health deteriorates significantly where we found in These correlations affirm the clinical understanding that the progression of liver disease is directly linked to declining QoL, reinforcing the need for early intervention and continuous monitoring throughout the disease course even that The effectiveness of different treatment modalities shows promising results [Krishnan, A. *et al.,* 2020; Chen, S. S. *et al.*, 2016] Patients undergoing combined treatment approaches report the highest improvement in QoL (30%), compared to those receiving medication or lifestyle changes alone. This finding aligns with current guidelines advocating for multimodal

treatment strategies in managing chronic liver disease so in search our finding The data highlight the importance of personalized treatment plans that address both medical and lifestyle factors to enhance patient outcomes [Chen, S. S. *et al*., 2016] The summary of findings emphasizes the overall impact of liver disease on patient quality of life, showcasing significant correlations between disease severity, psychological distress, and functional impairment. The data support the necessity for integrated care approaches that prioritize both physical health and mental well-being. Also, we found the findings advocate for ongoing research into effective interventions that can improve QoL in this patient population, reinforcing the importance of a holistic approach to liver disease management.

CONCLUSION

This research highlights the significant effect of liver disease on the quality of life of Iraqi patients in whom Through a multicentre study, we have found strong associations between the severity of liver disease and multiple aspects of QoL, including physical function, mental health, and overall satisfaction with life however The results emphasize that patients with more advanced degrees of liver disease have significant reductions in QoL and are at greater risk for depression and anxiety. The findings stress the need for clinicians to have a comprehensive approach in the management of liver disease that not only focuses on the medical condition but also on the psychological and emotional aspects of the patient. So finally, we conclude that treating both the medical and psychological aspects of patients with liver disease is critical to optimizing care and enhancing QoL. Future research must continue to examine these associations and assess the efficacy of comprehensive models of care that include mental health services in addition to standard medical therapies.

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