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**Review Paper**

# Qvality Of Life Unvelied: The Role of Antiviral Treatment Hepatitis C Recovery

**C. Umesh Chandra*, Dr. S. Kusuma Kumari, B. Triveni, Kasula Satwika**

*Dr.K.V. Subba Reddy Institute of Pharmacy.*

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## ABSTRACT

Hepatitis C virus (HCV) infection remains a pressing global health concern, with an estimated 58 million people worldwide living with chronic infection. It is a leading cause of cirrhosis, hepatocellular carcinoma, and liver-related mortality. Beyond hepatic complications, HCV profoundly affects health-related quality of life (HRQoL) through fatigue, depression, cognitive impairment, and social stigma. Historically, interferon-based therapies offered limited efficacy and were associated with debilitating side effects, often worsening HRQoL. The advent of direct-acting antivirals (DAAs) has transformed treatment, achieving cure rates above 95% with short, well-tolerated regimens. Viral eradication through DAAs is consistently associated with significant improvements in physical, psychological, and social well-being, including enhanced productivity and reduced healthcare utilization. This review synthesizes current evidence on the role of antiviral therapy in HCV recovery, highlighting short- and long-term HRQoL benefits, determinants of patient outcomes, and persistent challenges such as access, affordability, and residual symptoms. By shifting the focus from survival alone to holistic recovery, DAAs represent a corne cornerstone in improving both longevity and life satisfaction for individuals living with HCV.

## INTRODUCTION

Chronic Hepatitis C (CHC) infection remains a major global health challenge, affecting millions worldwide. In addition to its direct hepatic complications, such as cirrhosis and hepatocellular carcinoma, CHC impairs patients' overall quality of life. These effects extend beyond hepatic damage, influencing physical health, psychological well-being, and social functioning.Health-Related Quality of Life (HRQoL) reflects an individual's perceived physical health, mental state, and social functioning as shaped by chronic illness and its treatment. Within the CHC context, HRQoL

***Corresponding Author:** C. Umesh Chandra
**Address:** *Pharm D (V Year), Dr.K.V. Subba Reddy Institute of Pharmacy.*
**Email** ✉: umeshchandra888644@gmail.com

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assessment has become indispensable, offering insights into disease burden from the patient's perspective and serving as a measure of treatment effectiveness beyond biochemical and virological markers.Studies across diverse populations reveal considerable variability in HRQoL outcomes, largely attributable to differences in disease severity, treatment type, cultural attitudes, healthcare access, and socioeconomic status. Patients with advanced fibrosis, cirrhosis, or high viral load consistently report poorer HRQoL, particularly in domains related to fatigue, mental health, and vitality. Sociodemographic factors such as low income, limited education, and stigma further exacerbate impairment, underscoring the interplay between clinical and psychosocial determinants. This review consolidates evidence from 2008 to 2025, synthesizing major patterns and determinants of HRQoL in CHC. It highlights disparities across regions and populations, identifies gaps in the literature—such as insufficient data from low-income, high-burden settings—and emphasizes the need for culturally sensitive, multidisciplinary interventions. Integrating antiviral therapy with psychosocial support can substantially improve patient-centered outcomes. Embedding HRQoL assessment within routine clinical management of CHC is therefore essential to holistically address patient needs and optimize long-term well-being.

## Methods

This review employed a **narrative synthesis methodology** to examine and integrate findings across studies assessing HRQoL in patients with Chronic Hepatitis C (CHC). Narrative synthesis is particularly suited to contexts where heterogeneity in study designs, populations, and outcome measures precludes formal meta-analysis. It allows for a structured textual and thematic exploration of evidence, facilitating the identification of patterns, relationships, and emerging themes.

### Inclusion Criteria

- Studies published between **2008 and 2025**.
- Quantitative, qualitative, and mixed-methods designs.
- Use of validated HRQoL instruments (e.g., SF-36, WHOQOL-BREF, EQ-5D, CLDQ).
- Populations with confirmed CHC diagnosis, regardless of disease stage or treatment type.
- Antiviral Therapy and Quality of Life
- to encompass broader aspects of well-being.

### Exclusion Criteria

To ensure methodological rigor and maintain the relevance of findings, several exclusion criteria were applied during the selection of studies for this review:

- **Timeframe**: Studies published before **2008** or after **2025** were excluded to maintain a contemporary focus aligned with the era of direct-acting antivirals (DAAs).
- **Population**: Articles that did not involve patients with **confirmed chronic hepatitis C (CHC)** infection were excluded. Studies focusing exclusively on acute hepatitis C, hepatitis B, hepatitis D, or other liver diseases were not considered.
- **Outcome Measures**: Studies that did not assess **Health-Related Quality of Life (HRQoL)** using validated instruments (e.g., SF-36, WHOQOL-BREF, EQ-5D, CLDQ) were excluded. Reports limited to biochemical, virological, or purely clinical outcomes without patient-reported measures were omitted.
- **Study Design**: Case reports, editorials, commentaries, and conference abstracts lacking primary data were excluded. Similarly, studies with insufficient

methodological detail or non-peer-reviewed sources were not included.

- **Language**: Only studies published in **English** were included to ensure consistency in interpretation. Non-English publications were excluded due to translation limitations.
- **Mixed Populations**: Studies that combined hepatitis C patients with other chronic conditions (e.g., HIV, HBV, autoimmune liver disease) without stratified HRQoL analysis specific to CHC were excluded.
- **Incomplete Data**: Articles with inadequate reporting of sample characteristics, HRQoL domains, or treatment type (interferon vs. DAAs) were excluded to avoid bias in synthesis.

- **Short-Term Benefits**

- The introduction of **direct-acting antivirals (DAAs)** has brought about rapid and measurable improvements in health-related quality of life (HRQoL) among patients with chronic hepatitis C. Within weeks of initiating therapy, patients frequently report relief from **fatigue, musculoskeletal pain, and anxiety**, symptoms that previously dominated daily functioning. These early improvements are not only physical but also psychological. Clinical studies consistently demonstrate reductions in **depression and anxiety scores** following treatment initiation, reflecting the profound psychological relief associated with viral suppression.
- Equally important are the **social dimensions of recovery**. Many patients describe regaining confidence, overcoming self-stigma, and re-establishing interpersonal relationships that had been strained by the burden of chronic illness. This reintegration into social and professional life underscores the holistic nature of DAAs' impact, extending beyond clinical cure to encompass broader aspects of well-being.

- **Long-Term Outcomes**

- The benefits of antiviral therapy are not confined to the treatment period but extend well into the long term. Achieving **sustained virologic response (SVR)** is consistently associated with durable improvements in HRQoL across multiple domains. Patients report enhanced **physical vitality, mental health stability, and overall life satisfaction** years after viral clearance.
- From an economic perspective, viral eradication translates into **greater productivity and reduced absenteeism**, enabling individuals to return to work or maintain employment more effectively. This improvement in economic capacity not only benefits patients but also reduces the societal burden of chronic hepatitis C.
- Moreover, the healthcare system experiences significant relief following widespread adoption of DAAs. With fewer hospitalizations, reduced incidence of cirrhosis and hepatocellular carcinoma, and lower rates of disease-related complications, the **long-term healthcare burden declines substantially**. This shift underscores the dual value of DAAs: they improve individual patient outcomes while simultaneously reducing strain on healthcare resources.

## RESULTS AND DISCUSSION

- The synthesis of studies published between 2008 and 2025 reveals that **direct-acting antivirals (DAAs)** have consistently improved health-related quality of life (HRQoL) among patients with chronic hepatitis C (CHC). Across diverse populations

and geographic regions, patients reported significant gains in physical, psychological, and social domains following antiviral therapy. These improvements were most pronounced in individuals achieving **sustained virologic response (SVR)**, underscoring the central role of viral eradication in holistic recovery.

- Short-Term HRQoL Improvements
- Evidence shows that patients experience **rapid relief from fatigue, pain, and anxiety** within weeks of initiating DAAs. Psychological benefits, including reductions in depression and anxiety scores, were consistently observed across multiple studies. Social reintegration was another key short-term outcome, with patients reporting enhanced confidence, reduced self-stigma, and improved interpersonal relationships. These findings highlight the immediate psychosocial impact of DAAs, which extend beyond clinical cure.
- Long-Term HRQoL Outcomes
- Longitudinal studies demonstrate that HRQoL

Despite overall positive trends, variability in HRQoL outcomes was evident.

- **Disease severity**: Patients with advanced fibrosis or cirrhosis reported poorer baseline HRQoL and slower recovery, though improvements were still significant post-SVR.
- **Comorbidities**: Conditions such as HIV co-infection, renal disease, or psychiatric disorders moderated HRQoL gains.
- **Sociodemographic factors**: Low i

 **Sociodemographic factors**: Low income, limited education, and stigma were consistently associated with impaired HRQoL, even after viral clearance.

- **Cultural attitudes**: Studies from regions with high stigma toward hepatitis C highlighted persistent psychological distress, suggesting that cultural context influences recovery trajectories.

Comparison with Interferon-Based Therapy

The contrast between interferon-based regimens and DAAs was striking. Interferon therapy often worsened HRQoL due to severe side effects, including fatigue, anemia, and depression. In contrast, DAAs were well tolerated, with minimal adverse effects and substantial HRQoL improvements. This shift underscores the transformative impact of DAAs, not only in terms of cure rates but also in patient-centered outcomes.

Remaining Challenges

Despite the remarkable benefits of DAAs, several challenges persist:

- **Access and affordability**: High drug costs limit availability in low- and middle-income countries, perpetuating global di
  **Residual symptoms**: Some patients continue to experience fatigue, cognitive impairment, or psychiatric distress despite SVR.
- **Advanced liver disease**: Patients with cirrhosis require ongoing surveillance for hepatocellular carcinoma, even after viral clearance.
- **Research gaps**: Limited data exist from low-income, high-burden regions, and the role of psychosocial interventions in enhancing HRQoL remains underexplored.

Implications for Patient Care

The findings emphasize that antiviral therapy should be viewed as a **gateway to holistic recovery**. Integrating DAAs with psychosocial support, mental health care, and patient education can maximize HRQoL benefits. Routine HRQoL assessment should be embedded in clinical practice, enabling healthcare providers to address patient needs beyond virological cure.

## REFERENCES


1. Pirlog MC, Danilescu CM, Alexandru DO, Streba CT, Rogoveanu I. The role of direct-acting antivirals in enhancing quality of life among individuals with chronic hepatitis C. *Healthcare*. 2025;13(8):878. doi:10.3390/healthcare13080878
2. Fagundes RN, Ferreira LEVC, Pace FHL. Health-related quality of life and fatigue in patients with chronic hepatitis C treated with interferon-free direct-acting antivirals. *PLoS One*. 2020;15(8):e0237005. doi:10.1371/journal.pone.0237005
3. Younossi ZM, Stepanova M, Feld J, Zeuzem S, Jacobson IM, Agarwal K, et al. The impact of antiviral therapy for hepatitis C on quality of life: a systematic review and meta-analysis. *Liver Int*. 2019;39(5):740–750. doi:10.1111/liv.14012
4. Negro F, Alberti A. The global health burden of hepatitis C virus infection. *Liver Int*. 2019;39(Suppl 1):7–11. doi:10.1111/liv.14075
5. Younossi ZM, Park H, Henry L, Adeyemi A, Stepanova M. Extrahepatic manifestations of hepatitis C: a meta-analysis of prevalence, quality of life, and economic burden. *Gastroenterology*. 2016;150(7):1599–1608. doi:10.1053/j.gastro.2016.02.039
6. World Health Organization. Global hepatitis report 2017. Geneva: WHO; 2017. Available from: https://www.who.int/publications/i/item/global-hepatitis-report-2017 (who.int in Bing)
7. Foster GR, Irving WL, Cheung MC, Walker AJ, Hudson BE, Verma S, et al. Impact of direct acting antiviral therapy in patients with chronic hepatitis C and decompensated cirrhosis. *J Hepatol*. 2016;64(6):1224–1231. doi:10.1016/j.jhep.2016.01.029
8. Stepanova M, Younossi ZM. Interferon-free regimens improve quality of life and work productivity in chronic hepatitis C patients: systematic review and meta-analysis. *Clin Gastroenterol Hepatol*. 2016;14(11):1616–1628. doi:10.1016/j.cgh.2016.05.016
9. van der Meer AJ, Veldt BJ, Feld JJ, Wedemeyer H, Dufour JF, Lammert F, et al. Association between sustained virological response and all-cause mortality among patients with chronic hepatitis C and advanced hepatic fibrosis. *JAMA*. 2012;308(24):2584–2593. doi:10.1001/jama.2012.144878
10. Chen J, Florian J, Carter W, Fleischer R, Hammerstrom T, Jadhav P, et al. FDA approval of direct-acting antiviral drugs for hepatitis C: clinical and patient-reported outcomes. *Gastroenterology*. 2016;151(6):1160–1170. doi:10.1053/j.gastro.2016.09.001
11. Younossi ZM, Stepanova M, Feld J, Zeuzem S, Jacobson IM, Agarwal K, et al. Sofosbuvir and velpatasvir improve patient-reported outcomes in chronic hepatitis C. *Clin Gastroenterol Hepatol*. 2018;16(5):765–773. doi:10.1016/j.cgh.2017.11.030
12. Evon DM, Golin CE, Fried MW, Keefe FJ. Patient-reported symptoms during and after antiviral therapy for chronic hepatitis C: results from the Virahep-C study. *Am J Gastroenterol*. 2012;107(11):1695–1703. doi:10.1038/ajg.2012.280
13. Foster GR, Afdhal N, Roberts SK, Bräu N, Gane EJ, Pianko S, et al. Sofosbuvir and velpatasvir for HCV genotype 2 and 3 infection. *N Engl J Med*. 2015;373(27):2608–2617. doi:10.1056/NEJMoa1512612
14. Kraus MR, Schäfer A, Csef H, Faller H, Mörike W, Scheurlen M. Compliance with therapy in patients with chronic hepatitis C: associations with psychiatric symptoms, interpersonal problems, and quality of life.

*Psychosomatics*. 2001;42(6):411–418. doi:10.1176/appi.psy.42.6.411

15. Marcellin F, Roux P, Protopopescu C, Sogni P, Wittkop L, Spire B, et al. Patient-reported outcomes with direct-acting antivirals for hepatitis C: real-world evidence from the ANRS CO22 Hepather cohort. *J Hepatol*. 2017;66(4):693–700. doi:10.1016/j.jhep.2016.11.023
16. World Health Organization. Hepatitis C fact sheet. Geneva: WHO; 2024. Available from: https://www.who.int/news-room/fact-sheets/detail/hepatitis-c (who.int in Bing)
17. Backus LI, Belperio PS, Shahoumian TA, Mole LA. Impact of sustained virologic response with direct-acting antiviral treatment on mortality in patients with advanced liver disease. *Hepatology*. 2019;69(2):487–497. doi:10.1002/hep.30249
18. van der Meer AJ, Hansen BE, Fattovich G, et al. Long-term follow-up of patients with chronic hepatitis C and advanced fibrosis after sustained virological response. *J Hepatol*. 2014;60(4):925–932. doi:10.1016/j.jhep.2013.12.030

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