

Hepatitis C

Hepatitis C is a viral disease of the liver that afflicts an estimated 4 million Americans. Chronic hepatitis C is typically associated with fatigue, depression, joint pain, and liver impairment, including cirrhosis and liver cancer.

Scientists suggest that the endocannabinoid system may moderate aspects of chronic liver disease.¹⁻² Population data shows that adults with a history of cannabis use are less likely to suffer from specific liver problems, such as non-alcoholic fatty liver disease (NAFLD), than nonusers. Specifically, a 2017 University of Massachusetts study reported that frequent consumers of cannabis were 52 percent less likely to be diagnosed with NAFLD compared to nonusers, while occasional consumers were 15 percent less likely to suffer from the disease.³ A Stanford University study similarly reported that cannabis use independently predicted a lower risk of suspected NAFLD in a dose-dependent manner. “Active marijuana use provided a protective effect against NAFLD independent of known metabolic risk factors,” the authors concluded.⁴

Patients diagnosed with hepatitis C frequently report using cannabis to treat both symptoms of the disease and the nausea associated with antiviral therapy.⁵⁻⁶ An observational study by investigators at the University of California at San Francisco (UCSF) reports that hepatitis C patients who used cannabis were significantly more likely to adhere to their treatment regimen than patients who didn't use it.⁷

While some early observational studies initially cautioned that heavy cannabis use among hepatitis C patients might adversely impact the liver,⁸⁻¹⁰ more recent studies report that cannabis inhalation is not associated with the promotion of liver disease in hepatitis C subjects,¹¹ and, in some cases, may even act as a protective agent against it.¹²⁻¹⁴ Specifically, a 2019 review of nine studies involving nearly 6 million subjects concluded, “Marijuana use [does] not increase the prevalence or progression of hepatic fibrosis in HCV and HCV-HIV-coinfected patients. On the contrary, we noted a reduction in the prevalence of NAFLD in marijuana users.”¹⁵

Separate longitudinal data documents that patients co-infected with hepatitis C and HIV who consume cannabis are also less likely to suffer from insulin resistance as compared to nonusers.¹⁶ More notably, co-infected HIV/hepatitis C patients with a history of cannabis use possess a reduced mortality risk compared to nonusers, according to the results of a five-year longitudinal study published in 2019 in the journal *AIDS and Behavior*. Authors of the study reported: “Regular/daily cannabis use, elevated coffee intake, and not currently smoking [tobacco] were independently associated with reduced HCV-mortality. ... [P]otential benefits of cannabis-based therapies [should be further] investigated.”¹⁷

REFERENCES

¹ Zamora-Valdes et al. 2005. [The endocannabinoid system in chronic liver disease \(PDF\)](#). *Annals of Hepatology* 4: 248-254.

² Gabbey et al. 2005. [Endocannabinoids and liver disease – review](#). *Liver International* 25: 921-926.

³ Adejumo et al. 2017. [Cannabis use is associated with reduced prevalence of non-alcoholic fatty liver disease: A cross-sectional study](#). *PLoS One* [open access journal].

⁴ Kim et al. 2017. [Inverse association of marijuana use with nonalcoholic fatty liver disease among adults in the United States](#). *PLoS One* [open access journal].

⁵ Schnelle et al. 1999. [Results of a standardized survey on the medical use of cannabis products in the German-speaking area](#). *Forschende Komplementarmedizin (Germany)* 3: 28-36.

⁶ MedScape Today. 2004. [“Hepatitis C – Current state of the art and future directions.”](#) *MedScape Today*.

- ⁷ Sylvestre et al. 2006. Cannabis use improves retention and virological outcomes in patients treated for hepatitis C. *European Journal of Gastroenterology & Hepatology*. 18: 1057-1063.
- ⁸ Hezode et al. 2005. Daily Cannabis Smoking as a Risk Factor for Progression of Fibrosis in Chronic Hepatitis C. *Hepatology* 42: 63-71.
- ⁹ Ishida et al. 2008. Influence of cannabis use on severity of hepatitis C disease. *Clinical Gastroenterology and Hepatology* 6: 69-75.
- ¹⁰ Parfieniuk and Flisiak. 2008. Role of cannabinoids in liver diseases. *World Journal of Gastroenterology* 14: 6109-6114.
- ¹¹ Brunet et al. 2013. Marijuana smoking does not accelerate progression of liver disease in HIV-hepatitis C coinfection: a longitudinal cohort analysis. *Clinical Infectious Diseases* 57: 663-670.
- ¹² Nordmann et al. 2017. Daily cannabis and reduced risk of steatosis in human immunodeficiency virus and hepatitis C virus co-infected patients. *Journal of Viral Hepatitis* [online ahead of print].
- ¹³ Adejumo et al. 2018. Reduced incidence and better liver disease outcomes among chronic HCV infected patients who consume cannabis. *Canadian Journal of Gastroenterology & Hepatology*. [open access journal].
- ¹⁴ Barre et al. 2021. Cannabis use and reduced risk of elevated fatty liver index in HIV-HCV co-infected patients: A longitudinal analysis. *Expert Review of Anti-Infective Therapy* [online ahead of print].
- ¹⁵ Farooqui et al. 2019. Marijuana is not associated with progression of hepatic fibrosis in liver disease: A systemic review and meta-analysis. *European Journal of Gastroenterology & Hepatology* 31: 149-156.
- ¹⁶ Patrizia-Carrie et al 2015. Cannabis use and reduced risk of insulin resistance in HIV-HCV infected patients: A longitudinal analysis. *Clinical Infectious Diseases* 61: 40-48.
- ¹⁷ Santos et al. 2020. HCV-related mortality among HIV/HCV co-infected patients: The importance of behaviors in the HCV cure era. *AIDS and Behavior* 24: 1069-1084.