

Levels of hepatitis C virus higher among African-Americans and males

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Epidemiologists have determined that levels of hepatitis C virus (HCV) found among injection drug users (IDUs) were higher in individuals who are male or African American even after differences in other factors were considered. The study, which was funded by the National Cancer Institute and performed with collaborators from the National Institutes of Health Clinical Center and the University of California - San Francisco, was the first to simultaneously examine the association of demographic, viral and human genetic factors on HCV RNA levels. Results of the study published in the July issue of *Hepatology*, a journal of the American Association for the Study of Liver Diseases (AASLD), also showed higher levels of HCV among IDUs who were co-infected with human immunodeficiency virus (HIV).

A 2010 report from the Centers for Disease Control and Prevention (CDC) estimates that up to 3.9 million Americans have chronic HCV—a leading cause of liver cancer, end-stage liver disease and liver transplantation. According to the CDC 17,000 new cases and 2,800 acute cases of HCV were reported in 2010. Previous epidemiologic studies suggest one-third of those 18 to 30 year-old IDUs and up to 90% of older IDUs are infected with HCV.

"With such a high incidence and prevalence of [hepatitis C virus](#) infection among IDUs, it is important to understand the characteristics of the infection in this group," explains lead author Dr. Thomas O'Brien of the Division of Cancer Epidemiology and Genetics at the [National Cancer Institute](#) in Rockville, MD. "The HCV RNA level is an important

predictor of response to treatment in patients with chronic [hepatitis C](#). Our study is the first to examine simultaneously the viral, demographic, and genetic factors that impact HCV levels in ethnically diverse IDUs."

Participants were originally recruited for the Urban Health Study—a multi-ethnic group of IDUs in San Francisco. Researchers used interview data and biological samples from participants to analyze demographic, viral and host characteristics of cancer-causing viruses. A total of 1701 participants had detectable HCV RNA and were included in the present study. The median age at enrollment was 46 years and median age of first illicit drug injection was 18 years. Close to 75% of participants were men and 56% were African American, 34% European (non-Hispanic) and 7% Latino (non-African American).

Adjusted analysis revealed that age, gender, racial ancestry, HIV-1 infection, and IL28B rs12979860 genotype were all independently associated with the [HCV RNA](#) level. "We know that the level of HCV is an important predictor of treatment response and that these levels seem to be influenced by a number of demographic, clinical, viral and human genetic factors," concludes Dr. O'Brien.

More information: "HCV RNA Levels in a Multi-Ethnic Cohort of Injection Drug Users: Human Genetic, Viral and Demographic Associations." Lorenzo Uccellini, Fan-Chen Tseng, Alessandro Monaco, Fatma M. Shebl, Ruth Pfeiffer, Myhanh Dotrang, Dianna Buckett, Michael P. Busch, Ena Wang, Brian R. Edlin, Francesco Marincola, Thomas R. O'Brien. *Hepatology*; ([DOI: 10.1002/hep.25652](https://doi.org/10.1002/hep.25652)); Print Issue Date: July, 2012.

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