

HIV suppression not as good as previously thought, largest study of viral-load blood tests show

July 22 2012

Tens of thousands of Americans taking potent antiretroviral therapies, or ART, to keep their HIV disease in check may not have as much control over the viral infection as previous estimates have suggested, according to results of a study by AIDS experts at Johns Hopkins and the University of Pennsylvania.

In what is believed to be the largest and longest review of viral load test results in people with HIV disease ever performed in the United States, researchers found that the number of people sustaining viral suppression – consistently, at 400 or less viral copies per milliliter of blood, year after year – is roughly 10 percent less than previous estimates. The team's findings are set to appear in the *Journal of the American Medical Association* online July 25. The publication is timed to coincide with the XIX International [AIDS](#) Conference in Washington, D.C.

According to senior study investigator and infectious disease specialist Kelly Gebo, M.D., M.P.H., the team's latest findings underscore just how difficult it is to successfully treat HIV disease and prevent its spread even when people are taking effective ART. Gebo says that "if we are not fully suppressing the virus as much as we thought, then we are not fully preventing and reducing the likelihood of HIV transmission, either." Some 426,000 of the estimated 1.2 million Americans infected with the virus that causes AIDS are taking ART and are under the routine care of a physician.

Gebo says that, overall, while ART has improved significantly within the last decade, with once-a-day pill regimens replacing more complicated, multidrug schedules, "our study findings suggest that physicians and other health care providers still need to do more to promote drug adherence among our patients, and make sure people take their [antiretroviral therapies](#) as prescribed."

Without that extra effort, she says, "More people are potentially at risk of becoming infected with HIV, and those already on ART are at risk of developing drug resistance, too." Gebo is an associate professor at the Johns Hopkins University School of Medicine and the University's Bloomberg School of Public Health.

As part of the decade-long study, more than 100,000 individual blood test results were reviewed, all obtained with permission from the medical records of 32,483 infected adults. Seventy percent were men. Everyone prescribed ART had their blood viral levels carefully monitored at more than a dozen established HIV clinics, including the Moore Clinic at The Johns Hopkins Hospital.

Among the study's specific findings was that the percentage of participants who tightly controlled their HIV disease was 72 percent in 2010, the last year for which viral load counts were analyzed. This represented a major increase from 45 percent in 2001, but was significantly less than the 77 percent to 87 percent figures widely cited in 2011 reports from the U.S. Centers for Disease Control and Prevention, and in studies by other leading Hopkins and Canadian researchers.

According to study lead investigator Baligh Yehia, M.D., M.S.H.P., M.P.P., a postdoctoral fellow at the University of Pennsylvania School of Medicine in Philadelphia who trained as a medical resident at Johns Hopkins, all previous reports were based on single-year or one-time-only

recordings of blood viral levels, rather than a review of every patient's individual [test results](#) from year to year. The latter, he says, is a "more accurate" depiction of people's response to ART over the long term.

Other key findings in the latest report were that younger people, ages 18 to 29; blacks; injection drug users; and those without private health insurance were almost twice as likely as older people; whites; men who have sex with men; and those with private insurance to not have fully suppressed blood viral levels.

"Our data shows that while tremendous strides have been made in sustaining [viral suppression](#), physicians and other HIV care providers need to be more vigilant in monitoring the viral loads in young people, African-Americans, injection drug users and those who lack health insurance," says Yehia.

Gebo and Yehia next plan to use their study data to develop programs for helping people with HIV adhere to therapy and keep routine appointments with their physicians. The team also has plans to interview infected people who consistently adhered to ART and medical care, and those who did not, to better understand the reasons behind successful and failed attempts to sustain and tightly control the disease.

Currently, there are more than 34 million people in the world living with [HIV](#), including an estimated 1,178,000 in the United States and 23,000 in the state of Maryland.

Provided by Johns Hopkins University School of Medicine

Citation: HIV suppression not as good as previously thought, largest study of viral-load blood tests show (2012, July 22) retrieved 9 April 2024 from <https://medicalxpress.com/news/2012-07-hiv-suppression-good-previously-thought.html>

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