

Viral Load, Stroke Risk May Go Hand in Hand

Stroke is the number one killer of Americans—and nearly twice as common in Black Americans—but the effect of HIV viral load hasn't been clear.

April 30, 2021 By [Heather Boerner](#)

People with an HIV viral load above 10,000 already face a number of [HIV-related health issues](#). But now, a paper [published in the journal *Epidemiology*](#) suggests that it can [add stroke to their risks](#), too.

Stroke is the leading cause of death in the United States, according to the Centers for Disease Control and Prevention, and Black Americans experience strokes nearly twice as often as their white peers.

In the new study, Barbara Harding, PhD, a postdoctoral research fellow at Barcelona Institute for Global Health, and colleagues pulled data for 15,974 people living with HIV and taking antiretroviral (ARV) treatment from the Centers for AIDS Research Network of Integrated Systems between January 2006 and December 2014.

Almost 80% of participants were men, 43% were Black, 12% were Latino and 42% were white. The median age was 48. The participants had been on ARV treatment for a median of more than a year and a half at the start of the trial, and two out of three had a viral load less than 400 copies at baseline, with a median viral load of 38 copies at the start of the study. The study didn't detail ARV regimens.

Over a median follow-up of 4.2 years, 139 participants experienced some form of stroke. Most (81%) were ischemic—that is, a blood clot or other block of blood flow to the brain. Eighteen others were hemorrhagic strokes (excessive bleeding), and eight were unspecified. As is the case in the United States overall, Black participants had strokes at one and a half times the rate of their white counterparts—they made up just 43% of the cohort but accounted for 57% of ischemic strokes and seven out of eight uncategorized strokes.

Perhaps unsurprisingly, given that smoking is one of the biggest risk factors for stroke, smokers made up 40% of people with HIV who experienced ischemic stroke and half of those who experienced hemorrhagic stroke. Likewise, diabetes, hypertension, and hepatitis C were all associated with double the prevalence of stroke. These are general stroke risk factors not

associated with HIV in particular.

When the researchers looked at HIV-specific factors like viral load, they found that people who started the study with a viral load greater than 10,000 were 2.7 times more likely to experience stroke, and the association seemed to decrease as viral load went down. For instance, participants with a viral load of around 3,000 copies were 1.4 times more likely to have had a stroke than those with an undetectable viral load.

The study does not appear to have looked at stroke-specific risk factors, like diabetes and hypertension, according to viral load level, so it's unclear whether participants with higher viral loads were also more likely to have other risk factors for stroke.

Click here to [read the study abstract](#).

Click here to read more about [HIV and stroke](#).

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