Amsterdam On-Demand PrEP Study Sees No HIV Diagnoses in 2 Years

On-demand PrEP is taken only during the days surrounding sex.

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No participants contracted HIV during a two-year study in Amsterdam of the on-demand dosing protocol for pre-exposure prophylaxis (PrEP), aidsmap reports.

Also known as the event-based, or 2-1-1, protocol, on-demand PrEP involves taking a double dose of Truvada (tenofovir disoproxil fumarate/emtricitabine) two to 24 hours before expected sex and then one dose 24 hours after sex and a last dose 48 hours after sex.

In 2018, a investigators behind a French study known as IPERGAY also reported no new HIV cases among those taking on-demand PrEP.

Publishing their findings in the Lancet HIV, Elske Hoornenborg, MD, an infectious disease specialist at the Public Health Service Amsterdam, and colleagues recruited to the AmPrEP demonstration study men who have sex with men (MSM) and transgender individuals at significant risk for HIV between August 2015 and May 2016.

Participants were given PrEP with the option of taking it daily or on demand. They returned each three months for follow-up visits.

A total of 367 people were included in the analysis. They had a median age of 40. All but two of them were MSM. All were white and residents of Amsterdam.

During the two-year study, the investigators gathered 497 cumulative years (known as person-years) of follow-up data on the participants who took PrEP daily and 177 cumulative years of data on those taking on-demand PrEP.

Seventy-three percent of the participants initially opted for daily PrEP; the remaining 27% took it on demand. More than two thirds of them stuck with their initial dosing protocol choice. Sixty-nine

of them changed protocols once, and 38 did so more than once. Thirteen participants stopped PrEP during the study's first year, and seven stopped during the second year. Four participants restarted PrEP during the second year.

Two participants contracted HIV during the study, for an overall infection rate of 0.3 cases per 100 cumulative years of follow-up. Both of these people opted for daily PrEP. One had stopped taking PrEP several months before testing positive for the virus. The second was one of the few men in the world established as having contracted HIV while adhering to the daily PrEP regimen—a case first reported by Hoornenborg at the 2017 Conference on Retroviruses and Opportunistic Infections in Seattle.

Elske Hoornenborg of the Public Health Service Amsterdam with her poster presentation at CROI 2017 in SeattleBen Ryan

During the study's first year, 53% of the participants were diagnosed with a sexually transmitted infection (STI), as were 48% during the second year. Overall, the STI diagnosis rate was 41% lower among those taking event-based PrEP compared with those taking it daily.

Between years one and two of the study, the participants' median number of reported casual sex partners during the previous three months remained stable at 11 during the first year and 10 during the second. Similarly, the median number of reported sex acts during the previous three

months stayed essentially constant, at a respective 20 and 18. During both years, the median number of condomless sex acts was 10 per three-month period.

After adjusting the data to account for various differences between the participants, the study authors found there was a statistically significant (meaning it is unlikely to have occurred by chance) 5% rise between years one and two of the study in the reported number of condomless anal sex acts with casual partners during the previous three months.

“Although the overall incidence of STIs did not change during two years of PrEP use, the incidence of STIs was higher among participants using daily PrEP than those using event-driven PrEP, which is likely a result of differences in sexual behavior,” the study authors concluded. “This finding suggests the need to tailor STI prevention interventions according to behavioral profiles.”

To read the aidsmap article, click here.

To read the study abstract, click here.

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