

Taking Truvada 'as needed' can prevent HIV-transmission amongst people at high-risk

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HIV (yellow) infecting a human immune cell. Credit: Seth Pincus, Elizabeth Fischer and Austin Athman, National Institute of Allergy and Infectious Diseases, National Institutes of Health

In a study into the prevention of HIV transmission, people who took the antiretroviral drug Truvada were 86% less likely to contract the disease than those who took a placebo, report the researchers who led the study.

"The medication was taken as needed around periods of sexual activity. All study [participants](#) received regular HIV and STD prevention counselling and services, and stocks of condoms and lubricant," explained Dr. Cécile Tremblay of the University of Montreal and the CHUM Research Centre, who led the Canadian component of the research. "Indeed, this research looked specifically at men and transgender women at high-risk of HIV transmission, which we defined as persons having had unprotected anal sex with two or more different partners within a six month period. This study clarifies the role Truvada can play in protecting this population." The research, which will be published tomorrow in the *New England Journal of Medicine*, was led by Dr. Jean-Michel Molina of Hôpital Saint-Louis in Paris and Dr. Jean-François Delfraissy of France's ANRS Research Agency.

In real numbers, fourteen of the 201 people in the placebo group acquired HIV, compared to two in the 199-strong Truvada group. The study was double blinded, meaning that neither the participants nor the researchers knew who was receiving what while the study was being undertaken. Double-blinding enables researchers to demonstrate a higher standard of proof. In addition to the provision of the services mentioned above, participants were provided with enough pills that one could be taken every day during the length of the study, if necessary (a median of 9.3 months.) They were instructed to take two pills before sex, a third pill 24 hours later, and a fourth pill 24 hours after that. When sexual intercourse happened more often, participants were told to take one pill per day and then the two post-exposure pills. "Interestingly, participating in the study did not influence the participants' sexual behaviour," Dr Tremblay said.

The researchers point out that the efficacy of the long term efficacy of strategy evaluated in their study needs to be further studied as it was relatively short and people's adherence to medication regimes tend to drop off over time. However, this was one of the reasons why the study was undertaken: previous studies had shown some efficacy of Truvada as a preventative medicine when taken every day, however adherence was a great challenge, therefore this "as needed" strategy was designed to increase the likelihood that the patient would gain maximum benefit from it. "In both groups, participants took a median of 15 pills per month, demonstrating that they felt able to judge when the medication needed to taken," Dr. Tremblay said. "However, 28% of the participants did not take the pills at all and a further 29% took them at a suboptimal dose. Indeed, the two people in the medication group who became infected had not medicated themselves. Ensuring support for long-term adherence to the medication regime will be one of the challenges of working towards successful [prevention](#) amongst at-risk people."

Low adherence is in fact one of the reasons why researchers believe that two recent trials involving heterosexual women failed to show any benefit of the drug. Meanwhile, although the placebo arm of the study came to an end after the benefits of Truvada became clear, the scientists continue to work with the study participants, with a view to better understanding how adherence may or may not change over time.

More information: Jean-Michel Molina, M.D., et al., published "Sexual Activity Based TDF/FTC for HIV Prophylaxis in Men Who Have Sex with Men" in the New England Journal of Medicine on December 1, 2015. [dx.doi.org/10.1056/NEJMoa1506273](https://doi.org/10.1056/NEJMoa1506273)

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