

Study examines risk of HIV transmission from condomless sex with virologically suppressed HIV infection

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Among nearly 900 serodifferent (one partner is HIV-positive, one is HIV-negative) heterosexual and men who have sex with men couples in which the HIV-positive partner was using suppressive antiretroviral therapy and who reported condomless sex, during a median follow-up of 1.3 years per couple, there were no documented cases of within-couple HIV transmission, according to a study appearing in the July 12 issue of *JAMA*, an HIV/AIDS theme issue.

A key factor in assessing the effectiveness and cost-effectiveness of [antiretroviral therapy](#) (ART) as a prevention strategy is the absolute risk of HIV transmission through condomless sex with suppressed HIV-1 RNA viral load for both anal and [vaginal sex](#). Alison J. Rodger, M.D., of University College London, and colleagues evaluated the rate of within-couple HIV transmission (heterosexual and men who have sex with men [MSM]) during periods of sex without condoms and when the HIV-positive partner had HIV-1 RNA load less than 200 copies/ml. The study was conducted at 75 clinical sites in 14 European countries and enrolled 1,166 HIV serodifferent couples (HIV-positive partner taking suppressive ART) (September 2010 to May 2014).

Among the 1,166 enrolled couples, 888 (62 percent heterosexual, 38 percent MSM) provided 1,238 eligible couple-years of follow-up (median follow-up, 1.3 years). At study entry, couples reported condomless sex for a median of 2 years. Condomless sex with other

partners was reported by 108 HIV-negative MSM (33 percent) and 21 heterosexuals (4 percent). During follow-up, couples reported condomless sex a median of 37 times per year, with MSM couples reporting approximately 22,000 condomless sex acts and heterosexuals approximately 36,000. Although 11 HIV-negative partners became HIV-positive (10 MSM; 1 heterosexual; 8 reported condomless sex with other partners), no phylogenetically (molecular characteristics that indicate whether a virus is similar or different from another) linked transmissions occurred over eligible couple-years of follow-up, giving a rate of within-couple HIV transmission of zero.

The authors note that the confidence limits used in the study suggest that with eligible couple-years accrued so far, appreciable levels of risk cannot be excluded, particularly for anal sex and when considered from the perspective of a cumulative risk over several years.

"Although these results cannot directly provide an answer to the question of whether it is safe for serodifferent couples to practice condomless sex, this study provides informative data (especially for heterosexuals) for couples to base their personal acceptability of risk on."

The researchers note that additional longer-term follow-up is necessary to provide a similar level of confidence for the risk from anal sex compared to vaginal [sex](#).

"For individuals who want to routinely or intermittently not use condoms with an HIV-infected partner, clinicians can indicate that the risk of HIV transmission appears small in the setting of continued viral suppression, emphasizing that the duration the HIV-infected partner needs to be virologically suppressed before achieving optimal protection is unknown, although appears to be for at least 6 months, based on the best available data," write Eric S. Daar, M.D., and Katya Corado, M.D., of the Harbor-UCLA Medical Center, Torrance, Calif., in an accompanying editorial.

"Moreover, clinicians need to be clear that even though the overall risk for HIV transmission may be small, the risk is not zero and the actual number is not known, especially for higher-risk groups such as MSM. Although more research is needed with larger numbers of couples and longer follow-up, it is not known if or when such data will emerge. Consequently, for now, clinicians and public health officials must share the data that exist in an honest and understandable way so that serodiscordant [couples](#) can be fully informed when individualizing their decision making about sexual practices."

More information: *JAMA*, [DOI: 10.1001/jama.2016.5148](https://doi.org/10.1001/jama.2016.5148)
JAMA, [DOI: 10.1001/jama.2016.5636](https://doi.org/10.1001/jama.2016.5636)

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