U.S.-Led Efforts Show Great Progress in Combating HIV in Rakai, Uganda

Ramping up voluntary medical male circumcision and treatment coverage appears to have sent the local infection rate tumbling.

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The local HIV infection rate in hard-hit Rakai, Uganda, has fallen considerably as U.S.-led efforts have ramped up antiretroviral (ARV) treatment coverage as well as voluntary medical male circumcision (VMMC).

Three randomized controlled trials conducted in Africa and published in the mid-2000s found that VMMC is associated with about a 60 percent lower risk of female-to-male transmission of HIV. Recent research has indicated that on a societal level, VMMC is also associated with a lower rate of the virus among women.

Successful ARV treatment, in which the virus is reduced to an undetectable level, is associated with effectively no risk of transmission, according to increasing scientific consensus based on three major studies.

In 2004, the George W. Bush administration launched the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), which has focused epidemic-fighting efforts on Saharan African in particular. PEPFAR provides HIV treatment, VMMC and condoms to Rakai residents and also promotes safer sex practices among locals.

Publishing their findings in The New England Journal of Medicine, researchers studied data from 12 surveys of 33,937 adults ages 15 to 49 who were enrolled in the Rakai Community Cohort Study and followed between 1989 and 2016.

The participants made 103,011 cumulative study visits. A total of 17,870 individuals who entered the study when they were HIV-negative were followed for a cumulative 94,427 years. Out of that group, 931 people tested positive.

The overall HIV infection rate declined from 1.17 percent per year between 1999 and 2006 to 0.66 percent per year by 2016. After adjusting the data to account for the aging of the cohort and other factors, the researchers observed a net decline in the annual HIV infection rate of 42 percent during the study period.

The annual HIV transmission rate dropped by more than 50 percent among men and by 30 percent among women during the study period. The researchers theorized that this discrepancy reflects the men increasingly benefiting from the protection of circumcision and the fact that women are more likely to be on ARVs, thus protecting their HIV-negative male partners from acquiring the virus.

The proportion of the local HIV population on ARVs increased from 12 percent in 2006 to 69 percent in 2016. The proportion of those living with HIV who had a fully suppressed viral load increased from 42 percent in 2009 to 75 percent in 2016.

Between 1999 and 2016, the proportion of the male population that had been circumcised increased from about 15 percent to 59 percent.

The study did not see evidence of major risk-reducing behavioral changes during the study period. For example, the use of condoms did not rise. However, over time, younger people became less likely to become sexually active.

To read a press release about the study, click here.

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