Lack of Male Circumcision May Have Fueled HIV-2's Spread in Africa

This type of the virus initially took hold in Côte d'Ivoire and Guinea-Bissau, where circumcision was less common in the early 20th century.

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HIV-2, a major type of the virus common in West Africa, may have initially taken hold in the early 20th century in areas where male circumcision was relatively uncommon at the time.

A series of research studies published in the mid-2000s found that voluntary medical male circumcision is associated with about a 60 percent reduction in men's risk of acquiring HIV from vaginal sex. However, the research focused on HIV-1.

Scientists estimate that HIV-2 first crossed over from primates to humans in the 1930s. The earliest surveys of the virus's geographic prevalence, conducted on samples taken between 1985 and 1991, found that the virus had spread patchily in West Africa and that the highest prevalence was in Côte d'Ivoire and Guinea-Bissau. The results from genetic tests suggested that these nations were the earliest epicenters of the HIV-2 epidemic.

Publishing their findings in PLOS ONE, researchers for the new study about the role of male circumcision—or the lack thereof—in HIV-2's spread analyzed published data on the prevalence of the virus in 30 cities, spanning all West African nations. They also used fieldwork and available literature to estimate the past male circumcision rates of 218 West African ethnic groups. Additionally, they collected information on the division of ethnic groups within cities.

The researchers concluded that in the early 20th century, male circumcision in West Africa was far less common and that circumcision rates varied much more geographically than today.

There was a negative correlation between the local prevalence of HIV-2 between 1985 and 1991 and male circumcision rates in any particular area in 1950. Evidence suggests that variations in how much HIV-2 spread in West Africa correlated with the historical rates of male circumcision.

The study authors theorize that HIV-2 established an initial foothold only in cities with substantial populations of uncircumcised men. The lack of male circumcision in rural areas where individuals were exposed to primate bushmeat may have played a role in the emergence of the virus. (In

theory, HIV jumped from primates to humans through bushmeat.) Notably, in 1930, circumcision was uncommon in rural southwestern Côte d’Ivoire.

To read the study, click here.

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