

Male circumcision & HIV prevention

Introduction

At the end of 2006, an estimated 39.5 million people were living with HIV and 4.3 million became newly infected with the virus that year. Prevention must be greatly prioritized in the response to AIDS and efforts are being made to find new prevention technologies to strengthen the package of already known effective prevention methods. In March 2007, the World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) recommended that HIV prevention programs and policies recognise male circumcision as an additional, important strategy to prevent men from acquiring HIV from infected female partners.

Male circumcision is the surgical removal of all or part of the foreskin of the penis. It is one of the oldest and most common surgical procedures worldwide, undertaken for religious, cultural, social or medical reasons. Male circumcision has now been assessed as a potential means to limit the spread of HIV. Indeed, data from a range of observational epidemiological studies have demonstrated that circumcision offers men some —not complete— protection against acquiring HIV through heterosexual intercourse.

However, men who are circumcised can not think that they are not at risk, this is an incorrect understanding. Some men falsely make more high-risk choices because of their circumcision, which negates any positive effect the circumcision might have. It is important to understand that circumcision is not a protection, but a method to reduce transmission probability.

Study Findings

Since the 1980s, a number of observational studies indicate that circumcised men have lower levels of HIV infection than uncircumcised men.

The first randomized controlled trial, conducted in South Africa, showed male circumcision to provide a 61 percent protective factor against males' acquiring HIV through heterosexual intercourse. The trial was stopped in 2005, when an interim analysis showed at least a 60% reduction in HIV infection among circumcised men.

The trial carried out in Kisumu, Kenya, showed that adult male circumcision reduced by 53% the risk of becoming infected with HIV. It did not address whether male circumcision has any effect on the risk of transmitting HIV.

The trial, carried out in Rakai, Uganda, showed that adult male circumcision reduced by 48% the risk of becoming infected with HIV. It did not address whether male circumcision reduces the risk of transmitting HIV.

In all three randomized controlled trials, HIV incidence was considerably lower in the intervention (circumcised men) than in the control group (uncircumcised men), nevertheless it remained high overall (0.7 to 1.0 per 100 person-years in circumcised men).

A further trial, led by researchers at Johns Hopkins University, assessing the impact of male circumcision on the risk of HIV transmission to female partners is currently under way in

Uganda, with results expected in 2008. The effect of male circumcision on reducing the risk of HIV transmission among men who have sex with men has not been studied in a randomised controlled trial.

Biological Mechanisms

Experts have considered several possible mechanisms to explain how circumcision may decrease males' vulnerability to heterosexually acquired HIV.

- The inner mucosal surface of the foreskin contains a high concentration of cells that HIV-targets—cells such as Langerhans and CD4+T cells. Removing the foreskin greatly reduces the number of available target cells through which HIV could invade a man's body.
- HIV and other pathogens may survive for some time on the protected, damp, inner surface of the foreskin. Eliminating this environment reduces the pathogens' ability to survive.
- Abrasions and inflammation of the delicate foreskin tissue during sexual intercourse may facilitate HIV's invasion of the body. Circumcision eliminates the foreskin and closes off this pathway for the virus.
- In addition, studies link male circumcision to a lower prevalence of syphilis and some other sexually transmitted infections (STIs) that cause genital ulcers and also increase the risk of HIV infection. For example, a study in Tanzania found circumcised men to have half as many syphilis infections as their uncircumcised counterparts.

Policy implications

It is anticipated that news of these results will heighten interest in male circumcision from governments, non-governmental institutions, and the general public in a number of countries, in addition to increasing demand for male circumcision services. Governments considering whether and how to enhance the availability of safe male circumcision services will need to consider how to contextualise male circumcision within comprehensive HIV prevention programming. At the same time, the risk of unsafe circumcision is high if safety is not accorded high priority. After considering ethical, human rights, financial, human resource, safety and other issues, countries that decide to expand male circumcision services will need to ensure that it is promoted in a culturally appropriate way and that it is implemented safely.

Conclusion

The research evidence that male circumcision is efficacious in reducing sexual transmission of HIV from women to men is compelling. The partial protective effect of male circumcision is remarkably consistent across the observational studies (ecological, cross-sectional and cohort) and the three randomized controlled trials conducted in diverse settings.

However, male circumcision does not provide **complete** protection against HIV infection. Circumcised men can still become infected with the virus and, if HIV-positive, can infect their sexual partners. Promoting and providing safe male circumcision does not replace other interventions to prevent heterosexual transmission of HIV but provides an additional strategy.

Male circumcision should never replace other known methods of HIV prevention and should always be considered as part of a comprehensive HIV prevention strategy.

Moreover, it is critical to ensure that clear and correct information as well as global, regional and national level communication strategies, on the continuing need for other HIV prevention measures. This will be necessary to prevent men developing a false sense of security and engaging in high-risk sexual behaviours which could undermine the partial protection provided by male circumcision.

At the same time, promoting male circumcision as a method for preventing HIV requires:

- * Male circumcision should be part of a comprehensive HIV prevention package
- * Health services need strengthening to provide quality services safely
- * Planners must take an approach to offering male circumcision that acknowledges the human rights of the client
- * Culturally appropriate services

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Resources:

WHO. *WHO and UNAIDS announce recommendations from expert consultation on male circumcision for HIV prevention* <http://www.who.int/hiv/mediacentre/news68/en/index.html>

WHO, UNAIDS. *New Data on Male Circumcision and HIV Prevention: Policy and Programme Implications: Conclusions and Recommendations*
http://www.who.int/hiv/mediacentre/MCrecommendations_en.pdf.

WHO. *Information Package on Male Circumcision and HIV Prevention;*
http://www.who.int/hiv/mediacentre/infopack_en_1.pdf

UNAIDS, WHO. *Male Circumcision and HIV: Recent Developments;*
http://data.unaids.org/pub/FactSheet/2007/20061229_mc_fs_en.pdf?preview=true

Advocates for Youth. Written by Kathy Osborn
<http://www.advocatesforyouth.org/publications/factsheet/fsmalecircumcision.htm>