

Circumcision and reduction of HIV

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Clinical question:

In males, does circumcision reduce the risk of HIV?

Summary of Key Evidence:

Three sources of evidence were reviewed to answer the clinical question. The first source is a randomized, controlled intervention trial by Auvert et al. (2005). The primary objective of this study “was to determine the impact of MC on the acquisition of human immunodeficiency virus (HIV) by young men through a randomized, controlled, blindly evaluated intervention trial” (p.1113). The secondary objective “was to assess the role of behavioural factors known to be associated with HIV serostatus in explaining the possible impact” (p.1113). A total of 3,274 uncircumcised men, aged 18–24, participated in this trial and they were recruited within the general population during the years of July 2002 to February 2004, in the Orange Farm and surrounding areas in Gauteng, a province of South Africa. Infections were 60% fewer in the treatment group compared to the control group resulting in an estimated protection rate of 60% against HIV infection when a man was circumcised.

The purpose of the second study by Bailey et al. (2007) “was to determine whether male circumcision had a protective effect against HIV infection, and to assess safety, and changes in sexual behaviour related to this intervention” (p. 643). This study is a randomized, controlled, trial. The population included 2,784 men between the ages of 18 and 24 years of age in Kisumu, Kenya, between February 4, 2002 and September 6, 2005. Bailey et al. (2007) reported 22 of the participants who were in the circumcision group and 47 of those in the control group had become HIV positive. The risk ratio (RR) showed that a man having been circumcised significantly reduces the risk of contracting HIV infection and male circumcision substantially reduces the risk of acquiring an HIV infection, showing a 53% protective effect.

The aim of the third study by Gray et al. (2007) “was to investigate the effect of male circumcision on HIV incidence in men” (p. 657). This is a randomized, controlled intervention trial and was conducted in rural Rakai district, Uganda. Within the rural communities, screening and enrollment took place in a central study facility and in mobile facilities. A total of 4,996 men aged 15-49 years who had been screened, were uncircumcised, were HIV-negative, and had agreed to HIV testing and counseling were enrolled in the trial. The 4,996 uncircumcised men in the trial were randomized to a control or an intervention group. Gray et al. (2007) concluded male circumcision reduced HIV incidence in men without behavioral disinhibition, and recommended circumcision for HIV prevention in men.

Clinical Bottom Line:

Evidence from all three studies suggests male circumcision can reduce the risk of contracting HIV.

Implications for Practice:

Nurses can use the evidence from these studies when advising parents regarding circumcision questions or decisions and educate uncircumcised males on the benefits versus risks of circumcision in relation to HIV. By providing appropriate advice and education regarding circumcision and HIV risk reduction, nurses may be able to provide information which could help control the ongoing worldwide AIDS epidemic.

Articles:

Auvert, B., Talijaard, D., Lagarde, E., Sobngwi-Tambekou, J., Sitta, R., & Puren, A. (2005). Randomized, controlled intervention trial of male circumcision for reduction of HIV infection risk: The ANRS 1265 trial. *PLoS Medicine*, 2(11), 1112-1122. doi: 10.1371/journal.pmed.0020298

Bailey, R.C., Moses, S., Parker, C.B., Agot, K., Maclean, I., Krieger, J.N., Williams, C.F.M., Campbell, R.T., & Ndinya-Achola, J.O. (2007). Male circumcision for HIV prevention in young men in Kisumu, Kenya: a randomized controlled trial. *Lancet*, 369: 643-56. Retrieved from EBSCOhost.

Gray, R.H., Kigozi, G., Serwadda, D., Makumbi, F., Watya, S., Nalugoda, F., Kiwanuka, N., Moulton, L.H., Chaudhary, M.A., Chen, M.Z., Sewankambo, N.K., Wabwire-Mangen, F., Bacon, M.C., Williams, C.F., Opendi, P., Reynolds, S.J., Layendecker, O., Quinn, T.C., & Wawer, M.J. (2007). Male circumcision for HIV prevention in men in Rakai, Uganda: A randomized trial. *Lancet*, 369(9562), 657-666. Retrieved from EBSCOhost.