



## Male circumcision and HIV prevention

It is reported that there is grade I evidence that male circumcision reduces the risk of men acquiring human immunodeficiency virus (HIV) infection. This is based on three large randomised controlled trials (RCTs) on male circumcision that were undertaken in Africa, at Orange Farm, South Africa; Rakai, Uganda; and Kisumu, Kenya. The findings were published in *The Lancet* and *The Journal of Infectious Diseases* between 2007 and 2009. Over 10 000 men were circumcised at the three sites. The reported protective effect of male circumcision against HIV were Orange Farm (60%), Rakai (48%), and Kisumu (53%).<sup>1</sup>

A meta-analysis of the RCTs found that the risk in circumcised males was 0.44 times that in uncircumcised males, and that 72 circumcisions would need to be performed to prevent one HIV infection. The authors also stated that on a national level, using circumcision as a means of reducing HIV infection would require consistently safe sexual practices to maintain the protective benefit.<sup>2</sup> There is little or no evidence that male circumcision protects against male-to-female HIV transmission.<sup>3,4</sup> The underlying biological mechanism of the protective effect of male circumcision is based on the knowledge that HIV gains entry by attaching to receptors on Langerhans cells, which are particularly dense and located near the surface on the mucosal aspects of the foreskin and penile shaft. Male circumcision removes many of the Langerhans cells and those that are left are not as "susceptible" to taking up HIV, probably because the surface of the skin becomes dryer, making it difficult for the virus to attach.<sup>1</sup>

The findings of the protective effect of male circumcision led to the compilation and release of the 190-page World Health Organization *Manual on Male Circumcision Under Local Anaesthesia* (version 3.1) in December 2009. The manual covers three adult techniques in detail: the dorsal slit, and the forceps-guided and sleeve-resection methods. It also includes four paediatric techniques: the Plastibell technique, the Mogen and Gomco shields and a standard surgical dorsal slit method.<sup>5</sup>

In 2009, South Africa's male circumcision campaign began in KwaZulu-Natal and was rapidly disseminated to all nine provinces. There was an extensive search, which included information from the National Department of Health's

website, for credible "up-to-date" data on the number of male circumcisions that have been carried out in South Africa. It proved to be elusive. It seems that we do not have a national surveillance system that measures the impact of this public health intervention on the prevalence of HIV in South Africa. This is a warning to all healthcare planners, including public health specialists and family physicians, that it is insufficient to implement a national health programme without having a strict monitoring and evaluation process in place.

We urgently need to know the following:

- To date, how many males have undergone male circumcision in South Africa?
- Has male circumcision resulted in a decrease in the prevalence of HIV in South Africa?
- Is there evidence that those who have undergone male circumcision are consistently demonstrating safe sexual practices in order to maintain its protective benefit?
- Four years after the introduction of male circumcision, has there been a reduction in the number of HIV-infected females?

Until we have answers to these questions, it will be difficult to confidently declare that male circumcision reduces the prevalence of HIV in the population beyond the findings of the three RCTs. We urgently need a national surveillance system that will inform us that the various strategic efforts of the National Department of Health in combating the HIV/acquired immune deficiency syndrome pandemic are bearing the desired results. *A luta continua!*

**Gboyega A Ogunbanjo**

Editor-in-chief: SAFPJ

### References

1. Hargreave T. Male circumcision: towards a World Health Organisation normative practice in resource-limited settings. *Asian J Androl.* 2010;12(5):628-638.
2. Mills E, Cooper C, Anema A, Guyatt G. Male circumcision for the prevention of heterosexually acquired HIV infection: a meta-analysis of randomized trials involving 11,050 men. *HIV Med.* 2008;9(6):332-335.
3. Larke N. Male circumcision, HIV and sexually transmitted infections: a review. *Br J Nurs.* 2010;19(10): 629-634.
4. Eaton L, Kalichma SC. Behavioral aspects of male circumcision for the prevention of HIV infection. *Curr HIV/AIDS Rep.* 2009;6 (4):187-193.
5. Manual for male circumcision under local anaesthesia. World Health Organization [homepage on the internet]. 2009. c2012. Available from: [http://www.who.int/hiv/pub/malecircumcision/who\\_mc\\_local\\_anaesthesia.pdf](http://www.who.int/hiv/pub/malecircumcision/who_mc_local_anaesthesia.pdf)