

## The ethics of claiming a 60% reduction in HIV acquisition from voluntary medical male circumcision



**To the Editor:** Is telling people that voluntary medical male circumcision (VMMC) reduces the risk of HIV acquisition (female to male) by 60% ethically defensible? It is commonly stated that VMMC reduces the risk of HIV acquisition by (about) 60%, and this statement

is even repeated during the process of obtaining consent for the circumcision procedure, often without the clarification that this statement applies to female-to-male HIV transmission.<sup>[1,2]</sup>

Say a person's salary will be increased by 60% – the intuitive thing is to ask '60% of what?' Knowing the baseline salary is vital for fuller understanding of the situation. Can one then give informed consent to undergo VMMC on the basis of just a percentage? (During the consenting process for VMMC other issues are discussed;<sup>[3,4]</sup> however, the focus of this letter is on the 60% issue.)

Others state that VMMC can reduce by two-thirds (~66%) the rate of male acquisition of HIV.<sup>[5]</sup> Although this statement is technically true, it represents the upper margin of the 95% confidence interval relative risk reduction (40 – 67%) in favour of VMMC.<sup>[6,7]</sup> A two-thirds reduction therefore paints a more optimistic picture of VMMC. Medical authors have been known to use spin – as the media do – in scientific writing to achieve personal agendas.<sup>[8]</sup>

I am of the opinion that it is unethical to just say to people that male circumcision will reduce HIV acquisition by approximately 60%, especially when alternatives exist that may be clearer and more easily understood. In more practical terms, the approximately 60% reduction translates to: '[On average] 72 circumcisions will have to be conducted over a 2-year period to prevent a new [HIV] infection.'<sup>[6]</sup> Mathematical modelling suggests 'one HIV infection being averted for every five to 15 male circumcisions performed ...' in low-circumcision, high HIV prevalence settings.<sup>[9]</sup>

Risk compensation – where individuals engage in risky behaviour such as having multiple concurrent sexual partners because they think they are protected from acquiring HIV by VMMC – has been of concern in the HIV field.<sup>[10]</sup> The Orange Farm trial did 'find a slight increase in risky behaviour in the circumcised men.'<sup>[11]</sup> In my opinion, the 60% (or higher) reduction story can create a false sense of security, because the fuller picture is not revealed. It is not inconceivable for someone to think that 60% is closer to 100% (full protection from

HIV acquisition) than to 0% (no protection). Telling people about the number of men who have to be circumcised to prevent one HIV infection, rather than a percentage reduction, could make them more cautious (reduce risk compensation) about behaviours that could lead to HIV acquisition.

### Gwinyai Masukume

*Division of Epidemiology and Biostatistics, School of Public Health, Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, South Africa*  
parturitions@gmail.com

### References

1. Goldstick ND. Adult circumcision in the prevention of HIV/AIDS. *S Afr Med J* 2013;104(1):17. [<http://dx.doi.org/10.7196/SAMJ.7216>]
2. Banerjee J, Klausner JD, Halperin DT, et al. Circumcision denialism unfounded and unscientific. *Am J Prev Med* 2011;40(3):e11-e12. [<http://dx.doi.org/10.1016/j.amepre.2010.12.005>]
3. Tobian AA, Gray RH. The medical benefits of male circumcision. *JAMA* 2011;306(13):1479-1480. [<http://dx.doi.org/10.1001/jama.2011.1431>]
4. KwaZulu-Natal Department of Health. Get circumcised. Know the facts. 2014. <http://www.kznhealth.gov.za/comms/circumcision.pdf> (accessed 12 March 2014).
5. Fauci AS, Marston HD. Ending AIDS – is an HIV vaccine necessary? *N Engl J Med* 2014;370(6):495-498. [<http://dx.doi.org/10.1056/NEJMp1313771>]
6. 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. [<http://dx.doi.org/10.1111/j.1468-1293.2008.00596.x>]
7. Siegfried N, Muller M, Deeks JJ, Volmink J. Male circumcision for prevention of heterosexual acquisition of HIV in men. *Cochrane Database Syst Rev* 2009;2:CD003362. [<http://dx.doi.org/10.1002/14651858.CD003362.pub2>]
8. Fletcher RH, Black B. 'Spin' in scientific writing: Scientific mischief and legal jeopardy. *Med Law* 2007;26(3):511-525.
9. UNAIDS/WHO/SACEMA Expert Group on Modelling the Impact and Cost of Male Circumcision for HIV Prevention. Male circumcision for HIV prevention in high HIV prevalence settings: What can mathematical modelling contribute to informed decision making? *PLoS Med* 2009;6(9):e1000109. [<http://dx.doi.org/10.1371/journal.pmed.1000109>]
10. Wilson NL, Xiong W, Mattson CL. Is sex like driving? HIV prevention and risk compensation. *J Dev Econ* 2014;106:78-91. [<http://dx.doi.org/10.1016/j.jdeveco.2013.08.012>]
11. Kesinger M, Millard PS. Voluntary male medical circumcision. *S Afr Med J* 2012;102(3):123-124.

*S Afr JBL* 2014;7(1):4. DOI:10.7196/SAJBL.313