

Photo: Jerusalem AIDS Project



A client at FLAS clinic in Swaziland reading an HIV education leaflet while being circumcised

## Male circumcision for HIV prevention: Promises and concerns

*Inon Schenker*

**Male circumcision (MC) as an efficacious method for HIV prevention has been endorsed by the World Health Organization, UNAIDS, the National Institutes of Health (USA) and Agence Nationale de Recherches sur le Sida (France), among others. The international medical and public health community is confident that recommending immediate inclusion of the oldest and most common surgery in the world as part of a comprehensive HIV prevention package is an ethical priority in the high-prevalence generalized epidemics of southern and eastern Africa. This procedure could save millions of lives by reducing HIV incidence in both men and women, decreasing the incidence of some STIs and, if done properly and widely, make a major impact on the pandemic in the most affected regions of sub-Saharan Africa. Yet the heated debate that emerged after the publication of the results of three trials documenting proof of efficacy of male circumcision in 2005 and 2007, has been re-ignited further following the publication of recommendations supporting MC for HIV prevention in March 2007. This debate demonstrates some of the challenges faced in searching for acceptable ways of translating science into policy and practice.**

Male circumcision is the complete removal of the foreskin, which is the sheath of loose skin covering the head of the penis. There are several medical ways to conduct the surgical procedure and they vary according to the age of the client and preference of the medical practitioner. In addition, traditional methods of MC also

### Male Circumcision

There is growing evidence showing that male circumcision can reduce the risk of HIV infection in heterosexual men by as much as 60%. The World Health Organization, UNAIDS and others have recommended that male circumcision be included as part of a comprehensive approach to HIV prevention.

vary according to the age of the client and local customs. Some involve complete removal of the foreskin while others remove part of the skin or just give it a cut.

The most compelling evidence that medically performed circumcision significantly reduces a man's risk of acquiring HIV through heterosexual intercourse is based on three randomized controlled trials conducted in Kenya, South Africa and Uganda.

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They were discontinued between 2005 and 2006 when the interim analyses found that reduced risk of HIV seroconversion was so significant among the men in the circumcision arm that the researchers found it unethical to deny circumcision to the control arm participants. The investigators found a 48-60% reduction in HIV acquisition for the men enrolled in the circumcised arm of the trials, implying that circumcision could prevent at least five out of ten female-to-male HIV transmissions. The World Health Organization is now in agreement that the efficacy of male circumcision in reducing female to male HIV transmission is at least 60%.

These studies, together with a series of observational studies and meta-analyses,<sup>1-2</sup> confirm with certainty that male circumcision could significantly protect large numbers of men, and hence their female partners, from HIV infection, in heterosexually-driven epidemics. The fact that HIV prevalence is lower in countries where male circumcision is practised, mainly in the Middle East, North Africa, South-East Asia and West Africa, compared with similar countries in each region where most men are not circumcised, lends further credence to these findings.

### Science leading to policy

On 14 July 2000, WHO held a first informal consultation on MC and HIV in Durban, South Africa, to share unpublished data and discuss research and policy implications. When results of the South African study were first released at an international conference in Brazil, a July 2005 UNAIDS press statement stated that "...the results of these trials will need to be considered by governments and other key stakeholders in order to determine whether male circumcision should be promoted as an additional public health intervention to reduce the risk of sexual transmission of HIV". After further consultations, country initiatives (e.g. Swaziland, Zambia) and discussions with donors, a formal endorsement by WHO and UNAIDS was published on 28 March 2007 recommending "that

*male circumcision now be recognized as an additional important intervention to reduce the risk of heterosexually-acquired HIV infection in men.... and be part of a comprehensive HIV prevention package."* The statement reflected close analysis of the trial data and also considered a wealth of prior data. The WHO/UNAIDS policy asserts several key principles (see the Box) which countries should consider while strategizing on scaling up or rolling out MC services. WHO and UNAIDS recommend that countries with high-prevalence, generalized heterosexual HIV epidemics that currently have low rates of male circumcision consider urgently scaling up of access to adult male circumcision services. A more rapid public health benefit will be achieved if non-sexually active adolescents are prioritized, together with males in age ranges experiencing the

### WHO/UNAIDS recommendations

1. *The research evidence is compelling* – Male circumcision should now be recognized as an efficacious intervention for HIV prevention.
2. *Male circumcision does not provide complete protection against HIV* – Male circumcision should never replace other known methods of HIV prevention and should always be considered as part of a comprehensive HIV prevention package.
3. *Correct communication and messages on male circumcision are critical* – Carefully tailored and culturally-sensitive communication strategies should ensure that clear and consistent messages are disseminated to both women and men, and they should stress that male circumcision is only partially protective.
4. *The socio-cultural context should inform male circumcision programming* – Countries and institutions promoting male circumcision for HIV prevention should ensure that it is promoted and delivered in a culturally-appropriate manner that minimizes stigma associated with circumcision status, and that appropriate resources are engaged during the design of safe MC programmes.
5. *Human rights, legal and ethical principles must guide service delivery* – Countries should ensure that MC is provided with full adherence to medical ethics and human rights principles. Informed consent, confidentiality and absence of coercion should be assured. Parents who are responsible for providing consent should be given sufficient information regarding the benefits and risks of the procedure in order to determine what is in the best interests of the child.
6. *The gender implications of male circumcision as an HIV prevention method must be addressed* – Policy makers and programme managers should maximize the opportunity that male circumcision programmes afford for education and behaviour change communication, promoting shared sexual decision-making and gender equality.
7. *Programmes should target to maximize the public health benefit* – Countries with generalized HIV epidemics and low prevalence of male circumcision should identify priority geographic settings where male circumcision is likely to have the greatest impact on the HIV epidemic. Since neonatal circumcision is a less complicated and risky procedure than circumcision performed in young boys, adolescents or adults, such countries should consider how to promote neonatal circumcision in a safe, culturally-acceptable and sustainable manner.
8. *Health services need to be strengthened to increase access to safe MC services* – Needs assessments should be undertaken to describe and map out the anticipated scope of MC scale-up, human resource and training needs, infrastructure, commodities and logistic requirements, costs and funding, and systems for monitoring, evaluation and follow-up.
9. *Additional resources should be mobilized to finance the expansion of safe male circumcision services* – Countries should estimate the resources needed, develop costed national plans and allocate resources for male circumcision services without taking away resources from other essential health programmes.
10. *Promoting circumcision for HIV-positive men is not recommended* – Based on the current available evidence, male circumcision is not recommended for HIV-positive men as an intervention to reduce HIV transmission to women. HIV testing should be recommended for all men seeking male circumcision, but should not be mandatory.
11. *Research is needed to guide programme implementation* – Further research should be conducted to clarify the risks and benefits of MC with regard to HIV transmission from HIV-positive men to women, for men who have sex with men and in the context of heterosexual anal sex. The safety of male circumcision in HIV-positive men should be studied further.

Adapted from: "New data on male circumcision and HIV prevention: Policy and programme implications". WHO/UNAIDS Technical Consultation on Male Circumcision and HIV Prevention: Research Implications for Policy and Programming, Montreux, 6-8 March 2007. Conclusions and Recommendations, [http://www.who.int/entity/hiv/mediacentre/MCrecommendations\\_en.pdf](http://www.who.int/entity/hiv/mediacentre/MCrecommendations_en.pdf)

highest incidence of new infection. Many scientists and programme planners agree that introducing neonatal MC for HIV prevention could be a good long-term policy in high prevalence settings, although the impacts on HIV prevention will not be seen immediately. There would be limited public health impact from promoting MC in the general population in countries where the HIV epidemic is concentrated in specific population groups such as sex workers, injecting drug users or men who have sex with men. However, there would be an individual benefit for men at high risk of heterosexually-acquired HIV infection, particularly if circumcision is utilized as an entry point for wider counselling on HIV prevention and sexual and reproductive health in general.

It is recommended that, where possible, countries adopt policies which would mainstream MC in existing prevention services: testing and counselling, treatment for STIs, promotion of safer sex practices, family planning, provision of male and female condoms and the prevention of perinatal HIV transmission. Surgery for HIV prevention requires informed consent either by the individual or, in the case of neonates, the parent or guardian. Counselling, then, will determine, to a great extent, the MC coverage levels in any given community. Pre-operation counselling may also boost HIV testing rates, as MC may well be the primary contact point with HIV services for many men. Counselling will be very important for post-operation care, informing men not to resume sex too early,<sup>3</sup> to use condoms when sex is resumed, and including other safer sex messages such as reduced partnerships. It may also be a key entry point to discussing other areas of men's sexual and reproductive health and, in some circumstances, wider issues concerning gender, sexual violence and healthy relationships.

### From policy to practice

In various countries, mainly in southern and eastern Africa, ministries of health, NGOs, public and private sector stakeholders and donors are currently reviewing the way forward in incorporating MC into comprehensive HIV prevention packages. It is clear that the human and other resources shortage in health sectors across Africa will be a limiting factor in providing access to large populations of men who would voluntarily seek circumcision services. Already, demand is increasing and acceptability studies in Africa show that:

#### How could male circumcision prevent HIV infection?

The biological explanations are based on both clinical and epidemiological studies, but further research is necessary. Currently, there is evidence that the foreskin's inner mucosal surface is more susceptible to HIV because it has a higher density of immune cells vulnerable to HIV infection than the external surface. The foreskin also acts as a physical barrier, trapping HIV next to the mucosal surface of the penis for a longer period of time, increasing the risk of infection. After circumcision, the penile shaft and glands develop more epithelial keratinization, a process which makes the penis less susceptible to viral invasion.



Photo: Jerusalem AIDS Project

An Israeli surgeon of the Operation AB team trains a local surgeon in Swaziland

a) a median of 62% of uncircumcised men are willing to be circumcised; b) 50-79% of women favour circumcision for their partners; c) 50-90% of men and women are willing to circumcise their sons. These results were based on data collected specifically for determining acceptability levels in Kenya, South Africa, Swaziland and Uganda.<sup>4</sup>

Male circumcision is deeply-rooted in religious (Judaism and Islam) and cultural practices (traditional initiation rites of passage), and perceiving it from a purely public health perspective is challenging. If not performed 'by the book' male circumcision may result in

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severe complications. The challenges for every country scaling up male circumcision lie in adhering to the guidelines of WHO, UNAIDS and JHPIEGO. It is also necessary to prevent circumcised men developing a false sense of protection and engaging in high-risk behaviours that could reverse the partial protection provided by circumcision. This is called 'risk compensation' – engaging in higher risk sexual activities than one would if uncircumcised. Even though risk compensation was not a significant finding in any of the trials, it must clearly be guarded against by counselling individuals (men and women) and by effective and appropriate social and behavioural change communication messaging.

Any well-crafted plan to roll out MC in Africa will undoubtedly include a communication strategy as a major component to promote circumcision as an intervention to reduce HIV incidence and address the dangers of 'risk compensation'. Messages must be well developed, packaged and delivered to men and their sexual partners to reinforce the concept of comprehensive HIV prevention. The fact that MC provides only 60% protection for men calls for

## More information on male circumcision

### Fact sheets:

- Circumcision and HIV prevention (National AIDS Trust, UK): <http://www.nat.org.uk/document/310>
- New data on male circumcision and HIV prevention: Policy and programme implications. WHO/UNAIDS Technical Consultation Male Circumcision and HIV Prevention: Research Implications for Policy and Programming, Montreux, 6-8 March 2007 (WHO/UNAIDS): [http://www.who.int/entity/hiv/mediacentre/MCrecommendations\\_en.pdf](http://www.who.int/entity/hiv/mediacentre/MCrecommendations_en.pdf)
- Civil society advocacy for male circumcision rollout – Five ways to get involved (AIDS Vaccine Advocacy Coalition): [http://www.aidsvaccineclearinghouse.org/pdf/MC/civil\\_society\\_advocacy.march2007.pdf](http://www.aidsvaccineclearinghouse.org/pdf/MC/civil_society_advocacy.march2007.pdf)

### Websites:

- WHO pages on male circumcision in HIV prevention: <http://www.who.int/hiv/topics/malecircumcision/en/index.html>

continuous work in promoting behaviour change such as reduced concurrent partnerships, counselling and testing, proven prevention approaches for young people, male involvement, and supporting further research on microbicides and other new HIV prevention strategies. We need to be clear about the relative protective effect of circumcision and the danger of acquiring a false sense that it provides complete protection.

Paying attention to risk compensation is not only important in Africa in campaigns aimed at uncircumcised and newly circumcised men, but also in countries where circumcision is most prevalent and where young men may feel they are walking with a '100%, ever-lasting, condom'. With multiple communication channels and as the news on the benefits of male circumcision spreads, international agencies, donors, policy makers, researchers and advocates should also engage themselves in developing a parallel communication strategy on male circumcision and HIV/AIDS for adolescents and young people in communities where circumcision is practised traditionally.

## Conclusion

Male circumcision is a new, evidence-based surgical approach to reduce men's risk of contracting HIV heterosexually in countries and communities where it is not common. If performed on neonates, this procedure is fast, cheap, easy and results in multiple benefits; some (e.g. reduced risk of urinary tract infections) apparent immediately and others (e.g. reduced risk of HIV and STIs) only later, after sexual debut. If performed on adults, male circumcision requires highly skilled healthcare providers; appropriate hygienic settings; thorough counselling of clients and partners and time for both the procedure and follow-up.

Governments in high-prevalence countries, especially in mainland southern and eastern Africa, need to develop national policies that would consider male circumcision as a public health intervention,

with pros and cons, and need to establish monitoring and evaluation mechanisms as well as communication strategies that would maximize the public health benefits of MC. Donors are already investing in MC technology transfer, training and capacity building for MC in Africa. A recent example is 'Operation AB' – a pilot of the Jerusalem AIDS Project and FLAS in Swaziland, where Israeli surgeons train local Swazi doctors in MC service delivery.<sup>5</sup>

Operational research is necessary to further study the impact, acceptability and country-level management of male circumcision for HIV prevention. There is a lack of clear scientific evidence on the direct benefit to women in reduced infection risk from a circumcised HIV-positive man. Current studies on MC as a factor in male-to-female transmission will only yield results in 2008, and may provide another incentive for preventive MC. However, even if these studies show that women having sex with circumcised men will not benefit as much as men do in risk reduction, there is evidence from the published trials that there is at least an indirect effect: less infected men in any given community means less probability for women to become infected.

Similar to most innovations and debatable strategies, the role of civil society organizations (CSOs) in addressing the challenges and opportunities of preventive MC is crucial. NGOs, community and faith-based organizations should be well informed about MC science, monitor the peer-reviewed literature on the surgery and take a stand. Where appropriate, CSOs have a major role to play in advocating for the formulation of national policies, and should play a key role in national task forces on MC that are being established and explore ways of their involvement in the in-country programmes and services developed. ■

### Inon Schenker

Senior HIV prevention specialist at the Jerusalem AIDS Project & Chair of the National Working Group on Male Circumcision and HIV in Israel

### Correspondence:

E-mail: [jaipolam@yahoo.com](mailto:jaipolam@yahoo.com)

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3. Engaging in sexual intercourse before complete healing of the penis results in temporarily higher risk of HIV and other infections.
4. N. Westercamp & R. Bailey, Acceptability of male circumcision for prevention of HIV/AIDS in sub-Saharan Africa: A review. *AIDS and Behaviour*, 2007, 11 (3), p. 341-355: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1847541>
5. More information can be found on the website of the Jerusalem AIDS Project: [http://www.israaid.org.il/member\\_page.asp?id=11](http://www.israaid.org.il/member_page.asp?id=11)