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## Men's health: circumcision and HIV

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There is now clear evidence that male circumcision reduces the transmission of HIV from women to men. In December 2006, the National Institutes of Health (NIH) in the United States halted two clinical trials, in Kenya and Uganda, on the grounds that it would be unethical not to offer circumcision to all the men taking part in the studies. Circumcised men in both trials had dramatically reduced rates of HIV infection—a reduction of 53% in Kenya and 48% in Uganda—compared to controls who were uncircumcised.<sup>1</sup>

These results confirm a similar trial in South Africa, which showed that circumcised men were 60% less likely to be infected with HIV during heterosexual sex.<sup>2</sup> The Data Safety and Monitoring Board of the NIH stopped the South African trial during an interim analysis in 2005 and asked the clinicians to offer circumcision to the control group.

In February 2007, a re-evaluation of the data from the Kenyan and Ugandan studies revealed that some participants had been improperly classified or misdiagnosed. When these errors were considered, the protective effect of male circumcision proved to be as much as 60% in the Kenyan and Ugandan trials.<sup>3,4</sup>

The three trials add weight to a growing number of observational studies that link male circumcision practices to reduced rates of HIV infection. Epidemiological studies, for example, reveal a striking correlation between geographic patterns of male circumcision and the spread of HIV in Africa. Countries in which less than 25% of the males are circumcised have an average HIV prevalence of 16.4%, whereas countries in which more than 90% of the males are circumcised have an average prevalence of 0.9%.<sup>5</sup> Areas with low rates of male circumcision generally correspond to areas with a high prevalence of HIV—within the 'AIDS belt' in the eastern and southern parts of the continent. In contrast, circumcision is a common practice in the countries of West Africa, where rates of HIV tend to be low.<sup>6</sup>

Some scientists have argued that male circumcision could substantially reduce the burden of HIV in Africa. Although men would be the initial beneficiaries, male circumcision could lead to fewer infections among women in those parts of the world where HIV is spread primarily through heterosexual intercourse, according to Anthony S Fauci, Director of the National Institute of Allergy and Infectious Diseases in the United States. One dynamic simulation model suggests that male circumcision is equivalent to an intervention—such as increased condom use or a vaccine—that reduces transmission in

both directions by 37%.<sup>7</sup> The same model predicts that the expansion and introduction of safe procedures for male circumcision could avert 2 million new HIV infections and 300 000 deaths in sub-Saharan Africa over the next 10 years.

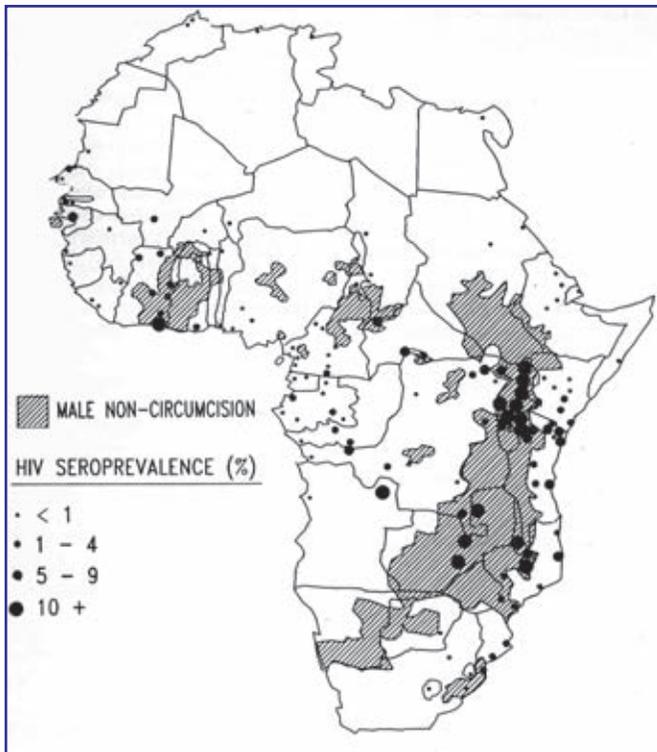


The results of these trials and projections will soon come to shape healthcare systems as providers will undoubtedly struggle to meet the demands. The provision of safe, voluntary male circumcision on a broad scale will require investments in healthcare throughout Africa. Providers, policy makers, and society will also need to anticipate potential barriers to male circumcision services. As the global consensus on male circumcision evolves, the international public health community may need to prepare for the introduction of surgical procedures in areas where male circumcision is not currently offered.

### Culture, medicine, and circumcision

The practice of removing the foreskin from the penis has important cultural and religious meaning in many parts of the world. Muslim peoples maintain male circumcision as one of the rules of cleanliness. In some African cultures, the procedure is often an integral part of a young man's ritual initiation into manhood. When a boy is circumcised, his social standing is elevated, he becomes a man.

Male circumcision has also been introduced for health reasons. Conditions such as recurrent balanitis (inflammation of the glans penis) and phimosis (in which the foreskin cannot be fully retracted) occur more often (or only) in uncircumcised men. The health benefits were



**Figure 1** Map of Africa showing HIV seroprevalence in relation to male circumcision practices

recognised by 19<sup>th</sup>-century physicians, who applauded the effectiveness of the procedure and began to encourage routine circumcision in the latter half of the century. Cultural beliefs and the practice of medicine have become intertwined with circumcision ever since.

Societies that rely on traditional healers to ritually circumcise boys often do not wish to convert to medical circumcision, which is perceived as an affront to a long-standing tradition. With the expected increase in demand for the procedure, the role of traditional healers in providing safe, voluntary circumcision in the new, HIV-prevention environment may warrant further exploration.

Many ethnic groups also believe the custom is unnatural and some expressly forbid it. These peoples often regard the lack of circumcision as part of their cultural identity. Even here, though, attitudes are changing. Non-circumcising tribes, such as the Sukuma of Tanzania, now seek the procedure because of the purported benefits to health and sexual pleasure. Schoolboys also seem to associate male circumcision with modern hygienic practices, and this has increased its popularity.

The rates of infant-male circumcision in Africa are also on the rise. This may be significant if it turns out that males need to be circumcised before their 'sexual debut' to be protected against the acquisition of HIV. One study found a protective effect when boys were circumcised before the age of 20, but no significant effect after that age.<sup>8</sup> Another study found no significant difference in HIV prevalence in those circumcised before and after their sexual debut.<sup>9</sup> The relative ease of circumcision in

## Sexual behaviour and health: changing attitudes in Tanzania

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An HIV-positive woman in Tanzania is 10 times more likely to have been physically abused by her current partner than an HIV-negative woman. This dramatic relation between health and behaviour has its roots in social norms that often promote a view of women as sexual objects. Some cultures subtly reinforce the notion that controlling a woman is a sign of masculinity. Such ideas contribute to acts of sexual violence and transactional sex – where gifts or services are exchanged for sexual favours. The high rate of physical violence inflicted on HIV-positive women reveals that these behaviours can also increase the risk of pregnancy and sexually transmitted infections.

New research suggests that these harmful attitudes can be changed during adolescence when boys begin to establish their patterns of sexual behaviour. In collaboration with the Instituto Promundo (a non-governmental organisation in Brazil), Family Health International has recently developed a programme to promote positive attitudes among young men. Originally developed in Latin America, the project has proved to be a success among young men (ages 15 to 24) in Tanzania.

The programme includes two week-long workshops that focus on sexuality, reproductive health, fatherhood, violence, emotions, and preventing or living with HIV/AIDS. Small groups of young men gather to consider the 'costs' of traditional gender norms and the harmful aspects of certain male behaviours. The workshops offer an alternative group of male peers and allow the young men to discuss and rehearse positive attitudes and behaviours.

Preliminary findings from Tanzania demonstrate that the young men developed positive attitudes about the roles of men and women in society, and about their responsibilities toward reproductive health, including the potential need for HIV tests. For example, the proportion of young men who agreed that it is only a woman's responsibility to avoid getting pregnant decreased from 33% to 10%. A similar decline—from 23% to 4%—occurred in response to a statement that women who carry condoms are 'easy'. Before attending the workshops, less than 10% of the young men had received an HIV test, but that number rose to nearly 40% after the 2-week programme. Several young men also sought treatment for sexually transmitted infections after they participated in the workshops.

Programmes such as this one in Tanzania have identified several factors that promote the notion of gender equity among young men, including:

- encouraging the young men to reconsider their attitudes
- providing a place to rehearse new behaviours
- having family models of equitable and nonviolent behaviours
- developing the young man's sense of responsibility and his desire to be a good father.

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## Vasectomy is a viable contraceptive option in Africa: evidence from Ghana

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Vasectomy is one of the safest and most effective methods of contraception, but few African men take advantage of the procedure. This can be explained by a number of factors, including a shortage of trained providers, provider bias, and fears and misconceptions about the method. Nevertheless, results of a recent pilot programme in Ghana strongly suggest that a greater number of African men would have vasectomies if focused efforts were made to overcome these barriers.

An estimated 42 million couples around the world rely on vasectomies to prevent unintended pregnancy, yet only about 100 000 couples use the method in Africa. In many African countries, including Ghana, this translates into about 1 in 1000 couples choosing vasectomy as a means of permanent contraception.<sup>1</sup>

The Ghana Health Service, the US Agency for International Development Mission in Ghana, and the ACQUIRE Project (managed by EngenderHealth) implemented a six-month pilot program in 2004 to increase the use of vasectomy in Ghana.<sup>1</sup> Aimed primarily at six health facilities in the metropolitan areas of Accra and Kumasi, the programme took a two-pronged approach to increasing the number of vasectomies performed there. First, providers received intensive clinical training on 'no-scalpel vasectomy', and the clinic staff was trained to provide male-friendly services. Several methods were then used to improve the awareness of the procedure, including a comprehensive media campaign, a telephone hotline, and community-outreach activities that targeted potential clients.

Early results from the programme are promising. The knowledge and attitudes of the providers have improved, potential clients are more aware of the method, and more men say they would consider a vasectomy. Also, the number of vasectomies performed increased four-fold, from 18 procedures in 2003 to 81 in 2004.

The long-term impact of the program is not known. As of 2005, the demand for vasectomies had waned, but a portion of the media campaign is scheduled to be rebroadcast in 2007.

When compared with other vasectomy pilot programs in Africa, this one has perhaps been the most successful. However, previous pilot studies in Kenya<sup>2</sup> and Tanzania<sup>3</sup> have also increased awareness of the procedure and demonstrated that the method is acceptable to African men.

In November 2006, EngenderHealth's ACQUIRE Project and Family Health International organised a meeting of international reproductive-health experts to identify priorities for expanding vasectomy as a family planning method.<sup>4</sup> Among the many topics discussed were the latest research findings on the effectiveness of surgical techniques for vasectomy (see Key Messages below) and valuable lessons learned from programmes in the developing world:

- Strategies for increasing the use of vasectomy should be tailored to local contexts, which may differ in culture, male preferences, available resources, and healthcare structures.
- The delivery of services requires a holistic approach. In any one setting, strategies to improve both supply of and demand for vasectomy should be implemented.
- A single enthusiastic and committed person can have a major impact on a vasectomy programme. Ideally, these 'champions' should be identified and nurtured at the policy, programme, and provider levels.

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### Key Messages

- The no-scalpel approach to the vas is best.
- Techniques such as cautery and fascial interposition improve the effectiveness of vasectomy.
- Recanalisation can cause vasectomy to fail in a small percentage of cases.

From *Vasectomy: Evidence-Based Practices to Improve Effectiveness*. The report summarises recent research by Family Health International, EngenderHealth, and others that can be used to improve the delivery of vasectomy services. Available: [http://www.fhi.org/en/RH/Pubs/Briefs/vas\\_effectiveness.htm](http://www.fhi.org/en/RH/Pubs/Briefs/vas_effectiveness.htm)



neonates makes this an interesting question. Although the circumcision of neonates would delay its impact on public health, it may lower overall costs. Further research needs to assess the effects of age on the protection offered by male circumcision.

### The next steps

According to the World Health Organization (WHO), there are signs that the demand for safe and affordable circumcision services is growing fast, especially in some of the southern African countries. This comes with its own set of challenges, not the least of which is a shortage of adequately trained surgeons – precisely in those countries where the intervention holds the most promise. The integration of male circumcision into existing services will require tailored strategies that vary by geographic region, socio-cultural influences, and the existing healthcare infrastructure. Qualified physicians, such as surgeons, and access to sterile instruments should be a basic requirement of these services.

There is also the related question of how to engage traditional circumcisers who, though not formally trained, play a large role in the procedure in some contexts. This cultural element raises policy-level questions about accreditation, quality control, and supervision. The tension between formal and traditional services, particularly in those societies that value traditional healers, must be addressed openly and with mutual respect. It would be helpful to include traditional healers and circumcisers in national task forces to ensure that cultural issues and questions of quality healthcare are addressed.

It may also be prudent to offer male circumcision as one part of a package of reproductive health services for men. People need to understand that male circumcision

does not confer full protection. It should be used alongside other protective measures, such as the reduction of risky behaviors and the use of condoms. Comprehensive services will maximise the educational potential of the intervention, but it will also challenge logistical systems. Providing safe circumcision services alongside antibiotics and contraceptives will be difficult at the periphery of the healthcare system.

Can male circumcision be accepted by cultures that do not engage in the practice? If so, policymakers need to consider the costs of introducing the practice and the particular needs that may be unique for each group. Anthropologists may also come to play a larger role in such assessments. This may be an enormous undertaking – a marketing approach to promote male circumcision may increase both the demand and the acceptance of the practice.

Although male circumcision presents challenges due to its cultural significance, the potential benefits for the individual and the population are too great to ignore. With careful planning, interventions that increase the practice of male circumcision may dramatically decrease the impact of HIV/AIDS in sub-Saharan Africa.

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