

The kindest cut: How circumcision is the secret weapon in the battle against HIV/Aids

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In Zambia, an experiment in the battle with HIV/Aids is producing staggering results. If this were a vaccine trial, the medical world would be hailing it as a miracle. But instead of a wonder drug, the secret weapon is circumcision. Jeremy Laurance reports

After weeks of waiting, Michael Phiri decided to take matters into his own hands. The 16-year-old from George Compound, a township outside Lusaka, was so anxious to be rid of his foreskin, and so frustrated after being turned away from the circumcision clinic at local hospital for the third time, that he took a bread knife and did the job himself. The resulting bloody mess had one positive outcome; it sent him straight to the top of the queue for surgery, and he got his operation performed, as an emergency, by the urology specialist Kasonde Bowa.

"He had made a good start, with a dorsal cut as far as the rim of the glans, but things had got difficult from there," a smiling Dr Bowa says, with admirable understatement.

As Zambia's leading expert on circumcision, Bowa tells this story (the patient's name has been changed) to illustrate the soaring demand for the procedure that is sweeping Lusaka and other towns across sub-Saharan Africa, as word spreads of its remarkable preventive power. After 25 years of research and the expenditure of billions of pounds, it turns out that the oldest surgical operation in the world, performed since antiquity, is the best defence we have against HIV/Aids.

In crisp shirt and tie, despite the sweltering heat, Bowa tells me of the benefits of circumcision. We're standing outside his cluttered office at the University Hospital, where the exotic flamboyant trees that pepper this sprawling city shed their vermilion blooms on to the patients waiting in the shade below.

Bowa started Zambia's first pilot project offering circumcision as a defence against HIV in 2004. It was soon overwhelmed. "We were operating three afternoons a week but had such high demand that we were unable to cope. We needed more space and more staff."

The simple act of removing a man's foreskin reduces his risk of contracting HIV by about 60 per cent. The reason is that the moist underside of the foreskin is thickly supplied with Langerhans cells, a key route for entry of the virus into the body. Langerhans cells are also present in the glans (head) of the penis, but after circumcision the skin of the glans becomes drier and thicker, denying the virus an easy point of entry.

The medical evidence, from a series of studies, of the protective effect of circumcision has been growing for two decades, but it is only since publication of three randomised trials in Kenya, Rwanda and South Africa in late 2006 that the global health community started to act. The trials were stopped early and all 10,000 men involved offered circumcision when initial findings showed that the protective effect was so great that it would have been unethical to continue.

In March 2007, the World Health Organisation and UNAids gave their official backing to circumcision and called on countries to offer it to all heterosexual men. Kevin de Cock, head of the WHO's Aids department, described it as "an extraordinary development", adding: "Circumcision is the most potent intervention in HIV prevention that has been described."

In the story of Aids, it is rare to come across a development as positive as this. Tragedy has been piled upon tragedy, and the world has tired of the unremitting gloom. Flooding Africa with condoms and trying to change sexual behaviour has had little demonstrable impact. Research on an Aids vaccine has foundered and an effective microbicide is still not in sight.

The toll from the disease is staggering – an estimated 33 million people infected with HIV, and 25 million dead. Even more alarming, however, is that new infections are growing by 2.7 million a year, outnumbering the annual two million deaths. For every two people put on drug treatment, five more become infected.

Against this litany of despair there is now, for once, a message of hope – a chance of curbing, and even reversing, the epidemic. Circumcision, if rolled out across the continent, offers the first real prospect of saving lives by preventing infection on a significant scale. Estimates suggest that if universal circumcision were introduced across sub-Saharan Africa, it could prevent 300,000 deaths in the next 10 years and three million deaths over the next 20 years. It is sometimes described as a "surgical vaccine" – with good reason.

Zambia has been among the first to offer the operation and pilot new services, and other countries are following its lead. Yet, globally, only 1 per cent of total Aids funding is earmarked for male circumcision. Progress towards delivering the single most effective preventive measure yet discovered against the pandemic is agonisingly slow.

Across the road from Bowa's office, what is believed to be the world's first dedicated circumcision clinic outside a hospital or research programme is doing brisk business. Launched last year by the international charity the Society for Family Health, following Bowa's lead, the New Start centre is sited in an anonymous, dusty building behind the YWCA. Its appearance gives no hint of the pioneering work carried out within. This is deliberate; the charity fears that the service would be besieged if it were more widely advertised.

As I watch, John Banda, a shopkeeper, aged 29, climbs on to the table in one of the three operating rooms, clutching his green surgical gown and grimacing at the ceiling as Aggie Mahule, one of half a dozen nurses and clinical officers given two weeks' training to carry out the procedure, injects local anaesthetic into the base of his penis. "Relax and feel at home," says Aggie kindly as she swabs the surgical area with disinfecting iodine. John, fearful of the pain and, possibly, for his manhood, makes no response.

Next door in the "recovery" room, Richard Chimuka, 31, a computer trainee wearing a black designer shirt and low-slung jeans, sits with his legs apart, looking relaxed and pleased that, for him, the operation is over. The surgery was over in 12 minutes – and no, it wasn't painful, he says. Does it bother him that the operation was performed by two women? "Actually, I felt excited about it – like putting my painting in a gallery," came the smooth reply.

It's not difficult to persuade Zambians of the virtues of circumcision. It is already practised traditionally by the Luvale and certain other tribes in the North-Western Province, where the HIV rate is half that in the rest of the country (6.9 per cent of the population in the region is infected, compared with 14.3 per cent for the country as a whole). In Lusaka, one in five of the adult population is infected (20.8 per cent), one of the highest rates in the world. Surveys have shown wide acceptance of the procedure and increasing interest among parents wanting the operation for their children.

More than 1,500 men have had the operation since the New Start clinic opened in August 2007, and more have been circumcised by mobile surgical teams that visit hospitals in Kafue and Kabulonga, an hour's drive from the city. This is good for them, but in the context of the country's epidemic – 100,000 new infections a year – it is like using a water pistol against a forest fire.

In a week spent in Lusaka, I searched for any agency, charity or expert opposed to rolling out circumcision – and I could not find one. Among the dozen organisations I visit, all voice their support – only the level of enthusiasm varied.

"It is the most important defence against the disease that we have," says Mannasseh Phiri, a GP and Zambia's best-known Aids activist. "The trials have shown that it really does work, it is relatively easy to do and it is a lot cheaper than putting people on drug treatment."

Jeffrey Stringer, director of the Centre for Infectious Diseases Research in Lusaka, which is piloting a neo-natal circumcision service, tells me: "If we had a vaccine as effective as this, we would be jumping up and down in the streets. A 60 per cent protective effect is fantastic. It is one of the most effective preventive strategies we have." Yet, as Steve Gesuale, head of the circumcision project at the Society for Family Health, points out, there is "very little funding from donors, very little government support and very little going on".

Why? Official backing from WHO and UNAids has not been enough to persuade governments and donors to put their money and resources behind circumcision – yet. Richard Harrison, the director of the Society of Family Health, says the reason is fear. "There is always a sense of jeopardy around big decisions, especially when they involve sex. You only have to remember the row over condoms 20 years ago. By endorsing circumcision publicly, the Zambian government would be exposing itself to criticism, especially from religious groups who are incredibly powerful. The government is not going to shout its support from the podium – it prefers to give it tacitly."

There is also the difficulty that an HIV/Aids prevention strategy is all about the future, because it takes at least a decade for the benefits to be felt, while treatment is about the here and now. "It is very difficult to get people to concentrate on something that is 10 years away," he says.

Neighbouring governments, members of the Southern African Development Community, have been unable to agree a common approach. President Yoweri Museveni of Uganda dismissed the proposal as the West's latest "golden calf" which Africa was expected to worship and warned that it could suck resources from other preventive strategies (a concern shared by some of the charities I spoke to).

In Malawi, a former minister of health is reported to have said that she would not back any measure that benefited men and not women. (Women would, of course, benefit indirectly if fewer men were infected – and estimates suggest that male circumcision would save more female lives than any other preventive method.) The Malawian ex-minister's response may have been a cover for the real reason – a fear that the proposal was an attempt to Islamise the country.

While Kenya and Rwanda have announced policies favouring circumcision, they have yet to find the resources to put them into practice. Only Botswana, smaller and wealthier than Zambia and with one-tenth of its population, has forged ahead, offering the operation in all government hospitals after President Festus Mogae enthusiastically declared: "We have nothing to lose but our foreskins."

In Zambia, despite the lack of public support, the message about the benefits of the operation is reaching all levels of society. In Garden Compound, the densely crowded township close to the centre of Lusaka, the tiny Viro Clinic – "We prolong and save" reads the legend above the door – displays a poster in the window advertising male circumcision. Outside, the faded red and blue plasterwork is crumbling. Inside, the three cramped rooms contain a pot plant reaching almost to the roof, an examination couch doubling as the operating table, and a small fridge. Beside it, on a table, a teddy bear is propped against a broken clock, along with red plastic roses.

Violet, the smiling receptionist, says demand for circumcisions has increased. "There are more in the winter [June and July] and in the evenings and early mornings when it is cooler. The wound heals better," she says.

Interest in circumcision has spread beyond the capital, to the country's vast hinterland, according to Karen Sichinga, chief executive of the powerful Churches Health Association of Zambia, which runs one-third of all Zambia's hospitals, mainly in rural areas. "The demand is increasing in our mission health facilities," she says.

For Sichinga, the operation does not carry the moral dilemmas involved in handing out condoms or preaching abstinence, an important factor for a faith-based charity. But she, like some others, is cautious of treating it as the silver bullet, the "answer" to Aids that has been so desperately sought for so long.

"Science has proved that the benefits outweigh the disadvantages," she said. "But you have to work hard to persuade people. Over 90 per cent of Zambia is Christian, not Islamic."

From township clinics to mission hospitals in the furthest reaches of the country – all such facilities will need to be recruited if the target of 500,000 circumcisions in five years, notionally set by the Society for Family Health, is to be achieved. Even that represents only half the number required to curb Zambia's HIV infection rate, calculated on the basis that four operations are needed to prevent one infection.

Supporters of the programme are pinning their hopes on a substantial chunk of the \$307m (£200m) allocated to Zambia by the Global Fund last month being used for a major scale-up of circumcision. The Gates Foundation is also considering a proposal which, if approved, would provide millions of dollars for the strategy.

Some experts, including Bowa, warn that even if the money is available, the vast increase in staff and facilities needed will take time to deliver. Others are more optimistic. Hospitals are already being used at weekends, with existing staff paid extra, and discussions are under way to hold circumcision clinics in the evenings. High-risk groups could be targeted first – the military, the police. It is not as simple as rolling out a vaccination programme, but there is already experience with cataract surgery, which is provided to hundreds of thousands of people across the world by staff with basic training, and circumcision providers from several countries in Africa have travelled to India to learn from the cataract experience.

Catherine Sozi, country co-ordinator for UNAids, dismisses suggestions that extending circumcision right across Zambia would prove too great a challenge. "That was what they said about anti-retroviral drugs – that they could not be provided in poor areas that lacked medical support. It will never happen, they said – and look how well we have done. We will scale up circumcision. The studies show it is working. It will become a human rights issue if we don't."

Science and society: Why circumcision works

Circumcision is an essential weapon in the fight against HIV/Aids in sub-Saharan Africa because, uniquely in the world, the disease there is widespread in the heterosexual community.

Although it offers less protection (60 per cent) against the virus than a correctly used condom (100 per cent), condoms are only effective where the key risk-groups are sex workers and their clients, and men who have sex with men.

In sub-Saharan Africa, the main driver of the epidemic is multiple concurrent relationships – the practice of taking several lovers at the same time. Condoms are not the answer in this context because these are long-term relationships, including marriage, in which condom use is low. Surveys in Zambia show that only 30 per cent of men use condoms, mostly in casual sexual encounters. Circumcision confers protection, though limited, in all situations, for life.

Critics fear that circumcision will encourage men to think they are immune and to ignore safe-sex advice, so increasing risks. Evidence from the trials in Kenya, Rwanda and South Africa showed no change in sexual behaviour following circumcision – and at the Society for Family Health's New Start clinic in Lusaka, men are repeatedly warned each time they return for a check-up that they are not completely protected and need to continue practising safe sex.

There are also fears that men will not wait for the wound to heal – six weeks is the recommended period of total abstinence, from intercourse and masturbation. Sex during this period could be dangerous as the wound is an the ideal pathway for HIV transmission. Men are warned of the dangers and there is no sign they are returning to sex too early.

A third objection is that the operation benefits men but not women. This has angered groups concerned about equal rights. But a reduction of HIV prevalence among men will indirectly benefit women. Estimates suggest that male circumcision has the potential to save more women's lives than any other preventive measure.

At the Society for Family Health's clinic, men are offered an HIV test before the operation, and more than 80 per cent accept the offer. Calls for the test to be made mandatory have been rejected because of concern that it could deter people from seeking the surgery.

Some experts warn that circumcision must only be offered with counselling and HIV testing. Others say quantity is what counts and services should be established on a factory model. At Orange Farm in South Africa, one of the three research sites whose work led to the WHO announcement, a conveyor belt service is offered, with a target to circumcise 80 per cent of the men among the town's 200,000 population. A study of the cost-effectiveness of the operation suggested that, if scaled up to 25,000 procedures a month at \$47 (£31) each, it could save more than \$60m in treatment costs over eight years.

Rolling out the surgery may be less easy in some countries. In Zambia, efforts to scale up circumcision have the support of traditional circumcisers and there are no cultural objections to the practice. In Kenya, however, circumcision is a mark of tribal identity; non-circumcising tribes such as the Luo are resistant to adopting a practice associated with their rivals. Top politicians from the Luo community, including three government ministers, have recently admitted to being circumcised in an attempt to promote the culturally taboo practice.

The Society for Family Health is an affiliate of Population Services International. Visit www.psi.org for further information.