

## Demand for male circumcision rises in a bid to prevent HIV

Demand for male circumcision as a method of combating HIV/AIDS is likely to increase dramatically if the results from two studies, in Kenya and Uganda, are positive. Public health experts are warning men, however, that circumcision may reduce the risk of HIV infection but it does not provide full protection.

The results of two studies, in Kenya and Uganda, are eagerly anticipated following last year's study carried out in Orange Farm, South Africa, which was stopped early because it showed a significant protective effect of circumcision. It is not known whether the current Kenya and Uganda studies that are due for completion in 2007 will confirm the results of the Orange Farm study, but there are signs that the demand for safe and affordable circumcision services is growing fast, particularly in Botswana, Lesotho, Swaziland, the United Republic of Tanzania and Zambia, and in South Africa too.

Public health experts say that countries in southern Africa with very high HIV prevalence and low circumcision rates and where the spread of HIV is predominantly via heterosexual sex may want to consider doing acceptability, feasibility and costing studies for making male circumcision widely available.

The results of the Orange Farm study in South Africa have been widely publicised in the region and discussed by leaders, members of parliaments (MP), health workers, the press and general public. As a result, there are already indications of increasing demand for male circumcision in traditionally non-circumcising societies in southern Africa. At the University Teaching Hospital in Zambia, demand has grown from 1 to 15 a month with a three-month waiting list. Demand at one Swaziland hospital is reported to have risen from less than one per month to 40 a month. Marwick Khumalo, a Member of Parliament (MP) for Lobamba in Swaziland was quoted in the local press: "All male children should be circumcised. To show

my seriousness, I have taken all my sons for circumcision." Kenyan MP Jimmy Angwenui said: "In order to stop the spread of HIV/AIDS male circumcision should be made mandatory by the government."

In Swaziland, the health ministry backed a workshop in January to train 60 doctors and nurses in circumcision, responding to what it called a surge in demand. There were so many volunteers to be demonstration-and-practice patients during the training session that a hundred men had to be turned away. Daniel Halperin, Prevention and Behavior Change Advisor for the South Africa Regional HIV/AIDS Programme says: "There is already high demand for male circumcision in Swaziland following a lot of publicity in the local press and radio. Public health facilities are already overwhelmed and men are being turned away and put on a waiting list which is currently around eight months long".

There would be many advantages to male circumcision, were it to be confirmed as a means of preventing HIV: it is relatively inexpensive, it can be carried out over a wide age range and it is a one-off intervention conferring lifelong reduced biological risk. François Venter, Clinical Director of Reproductive Health and HIV-Research at the University of Witwatersrand, Johannesburg advocates male circumcision as one of the best protective measures. "Male circumcision is the most powerful intervention we have at this point in time. It is phenomenally effective," he told the *Bulletin*. "One of the beauties of circumcision is that it is a one-off operation which takes 16–20 minutes but then has a profound effect on the rest of a man's life. Whereas

to promote condom use or microbicides, repeated long-term promotion is needed."

Data from cross-sectional observational studies conducted since the mid-1980s have shown that circumcised men have a lower prevalence of HIV infection than uncircumcised men. But the Orange Farm study backed by Agence National de Recherches sur le Sida (ANRS) was the first randomized controlled trial to show such an effect. The trial randomized 3274 men to either circumcision or to a control group (PLoS Med 2005; 2:e298). A panel of experts stopped the trial after an average of 18 months follow up. There were 20 HIV infections in the intervention group and 49 in the control group, corresponding to a 60–75% protection rate. The study authors state: "Male circumcision provides a degree of protection against acquiring HIV infection equivalent to what a vaccine of high efficacy would have achieved. Consequently male circumcision should

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A young Xhosa man covers his head with a blanket after undergoing circumcision in Qweqwe in Transkei, in 1997. According to tribal tradition young men are circumcised without anaesthetic, as a rite of manhood.

Keystone/AP Photo: Sasa Kralf

## Circumcision: current practice and acceptability

Cultural acceptance of circumcision will be vital, if this practice is to be an important complementary intervention for prevention of HIV infection. Around 20% of men globally and 35% in developing countries are circumcised for religious, cultural, medical and other reasons. Male circumcision practices vary throughout Africa. Countries in West Africa, where male circumcision is common, have HIV prevalence levels well below those of countries in eastern and southern Africa despite the presence of other risk factors. In countries of southern and eastern Africa with the highest HIV prevalence, male circumcision rates are generally under 20%.

Men in Muslim countries are circumcised, as in North Africa and a large part of West Africa. But elsewhere it depends on other cultural factors, including changes that occurred under colonization. For example in Cameroon and the Democratic Republic of the Congo, which are predominantly non-Muslim, most men are circumcised. In Kenya, around 85% of adult men are circumcised, mainly as a rite of passage to manhood.

Only one major ethnic group in Kenya, the Luo, who make up around 13% of the Kenyan population, do not traditionally practice male circumcision. It is among this group that the current trial in Kenya is taking place. Study leader, Robert Bailey, told the *Bulletin* that acceptability studies have shown that approximately 60% of Luo men would prefer to be circumcised if it could be done safely and at minimal cost.

Circumcision rates tend to be low in South Africa, apart from the Eastern Cape where as many as 80–90% of men are circumcised. The Xhosa men in this region undergo circumcision as part of a traditional rite of passage, between 18 and 20 years of age (see photo on p. 509). Dr Adrian Puren, co-author of the Orange Farm study and deputy director of the National Institute for Communicable Disease in Johannesburg, says: "Culture is not necessarily a barrier to circumcision. In our trial we found that even Zulus, who traditionally have a low rate of circumcision, they were willing to be circumcised."

Acceptability studies in Kenya, Uganda, South Africa, Swaziland, the United Republic of Tanzania and Zimbabwe have shown that around 60% of men would like to be circumcised. A large Harvard AIDS Institute survey in Botswana found that over 80% of uncircumcised men said they would like to be circumcised if it were performed safely and affordably (*Sex Transm Infect* 2003;79:214-19). Several of the countries that are most severely affected by HIV — Swaziland, Botswana, Lesotho and South Africa — practised male circumcision widely in the past, but the practice waned with urbanization and Westernisation. Promoting it now would be returning to traditional culture, not introducing an unfamiliar practice.

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The two further randomized controlled trials, currently ongoing in the Rakai region of Uganda and the Kisumu region of Kenya, are supported by the National Institutes of Health of the United States. The Uganda trial is in a rural setting and involves 5000 participants aged between 15 and 49 years. The Kenya trial involves 2784 men aged 18–24 in an urban setting. The two trials are due to be completed in 2007, and an interim review of the data was due to be conducted by the Data and Safety Monitoring Board in late June 2006. A further randomized trial assessing the impact of male circumcision on the risk of HIV infection in female partners is currently under way in Uganda with results not expected until late 2007.

Circumcision can be risky if it is performed in unsterile conditions. It can lead to infection, bleeding and permanent injury, or HIV infection from non-sterilized "instruments", and possible

death if appropriate treatment is not provided. Every year the authorities in the Eastern Cape of South Africa report deaths and serious complications from botched circumcisions of young boys carried out by traditional healers.

Robert Bailey, who is the leader for the current Kenyan trial, did a recent study of complication rates from traditional and circumcisions performed in medical settings in Bungoma District of Kenya. Bailey and his colleagues found that traditional circumcision resulted in a complication rate of 35% while the latter produced a complication rate of 18%. "In our current trial the complication rate is 1.7%. This demonstrates that it is possible to keep complications to a minimum in an African setting." A major problem is lack of sterile equipment and facilities. "We have carried out surveys of health facilities in Kenya and found that all but the major district hospitals are lacking proper instruments, such as sterilizing equipment, working surgical instruments and supplies, to perform safe circumcisions."

There are other concerns about circumcision. During the healing period, sexually active men are likely to be at higher risk of HIV infection. During this time — approximately three to four weeks — men should be instructed to refrain from sexual activity. There are opponents of male circumcision who see it as a violation of human rights, particularly if carried out on children or adolescents. But perhaps the largest potential problem with circumcision is the false perception of security. Male circumcision is not a magic bullet and does not provide full protection. If men perceive they are fully protected then it could lead to a decrease in condom use or an increase in risky sexual behaviour. This was seen in the Orange Farm study when the intervention groups had significantly more sexual contacts. Dr Venter says: "There is a danger that men will see circumcision as an invisible condom and take part in more risky sexual behaviour. However, it would be the same with an HIV vaccine. The message has just got to be put across carefully that circumcision is part of the jigsaw puzzle of prevention." Male circumcision needs to be promoted as part of the range of methods to reduce the risk of HIV, including avoidance of unprotected penetrative sex, reduction in the number of sexual partners and consistent condom use.

The cost of male circumcision varies depending on where the operation takes

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place and who performs it. However, data from Nyanza, Kenya suggests that circumcision can be done in medical facilities for about US\$ 25 per procedure. This includes US\$ 8 for medical expendables such as sutures and needle, bandaging and analgesics, US\$ 7 for surgical preparation (preparing the room, cleaning linens, sterilizing instruments, and US\$ 10 in overheads (physician's fee, maintenance of room and equipment). Professor Tom Quinn from Johns Hopkins University told the 2006 Conference on Retroviruses and Opportunistic Infections that he calculated that 16 operations would prevent one incident HIV infection over 10 years. The cost per HIV infection averted could be as low as US\$ 1052, if protection occurs in both sexes, making circumcision extremely cost effective.

The current position of WHO is that safe circumcision should be provided where people want it but that a policy decision on whether to promote it should wait until the results of the Kenya and Uganda trials are available. In the meantime a UN Work Plan on Male Circumcision is being implemented to help countries improve the safety of their circumcision practices. WHO has produced a technical manual, *Male circumcision under local anaesthesia*, which addresses the provision of safe male circumcision services for newborns, adolescents and adults and gives detailed technical information on the different surgical approaches.

### How could male circumcision protect against HIV?

Male circumcision is the surgical removal of all or part of the foreskin of the penis. There are several biological explanations as to why this operation may reduce the risk of HIV infection. Removal of the foreskin reduces the ability of HIV to penetrate the skin of the penis. In addition, on the underside of the foreskin are located many special immunological cells such as Langerhans cells which are prime targets for HIV. Another possible explanation is that small tears in the delicate skin of the inner surface of the foreskin during sexual intercourse could allow a portal of entry for HIV. Men with a foreskin are more prone to have some infections, including sexually transmitted infections, which can enhance HIV transmission. Male circumcision is associated with a much lower risk of penile cancer. Several studies now suggest that female partners of circumcised men have a lower risk of cancer of the cervix. Other benefits include prevention of inflammation of the glans and foreskin (balanitis) and prevention of scar tissue causing an inability to retract the foreskin (phimosis).

If the two ongoing trials are positive then governments in sub-Saharan Africa may want to decide whether to commit funds to train medical staff and provide appropriate equipment and facilities. Dr Puren says: "It will put further stress on a health-care system already straining to roll out an ARV (antiretroviral) programme."

Bailey warns: "People want the services. If they are not provided with the services they will seek unqualified practitioners who will exploit the situation. We have to build the capacity to provide safe and affordable services." Venter adds: "There are already long queues for circumcision in South Africa so there will need to be careful planning. We need to train more people to carry out the operations safely. There is no need for doctors to do it. It is a simple procedure that trained technicians could carry out."

When should circumcision take place? One option would be to promote routine circumcision of infants, possibly as part of the antenatal care package. Botswana, in fact, took a policy decision to offer this some years ago but it has not been implemented. Circumcising at this age would reduce the complications that result from traditional circumcision rites in adolescence. But the major benefits of preventing HIV infections would take more than 20 years to be realised.

The other alternative is to offer circumcision through health facilities, and possibly schools and youth centres to young men before they become sexually active. Dr Venter believes a proactive recruitment programme should be carried out. "We need to incentivize circumcision. For example every man who comes forward should be given 100 rand (US\$ 14.50)." ■

Jacqui Wise, *Cape Town*

## WHO coordinates health provision for quake survivors

Days after a devastating earthquake hit two Indonesian provinces, 6000 health workers from across the country were dispatched to the disaster zone. To help Indonesian Government efforts to provide emergency health care, WHO has been coordinating dozens of international organizations and charities to aid survivors.

Within hours of a 6.2 magnitude earthquake that hit the Indonesian provinces of Yogyakarta and Central Java on May 27, a massive relief effort, comprising both Indonesian and overseas organizations, got under way. A fortnight after the quake, approximately 75 international nongovernmental organizations (NGOs), and more than 10 government teams and UN agencies had sent personnel and supplies to the stricken region to support the Indonesian Government's own relief efforts.

WHO's role was as the lead agency of the Health Cluster, set up in June 2005 as one of the key components of wider humanitarian reforms within the UN. At the country level the Health Cluster's role is to coordinate the health response. The Cluster system proved successful in the South Asia earthquake in 2005. In Indonesia,

this approach helped to involve most of the NGOs engaged in relief efforts in efforts to assist the two provincial health authorities, as they grappled with the aftermath of the quake: over 5700 dead, nearly 38 000 injured, 470 000 dwellings damaged or destroyed and 1.5 million people affected.

"WHO's main role is supporting the Indonesian Government in its work responding to the emergency situation, particularly on human health-related concerns, and WHO has been in close relationship in supporting the work of the Ministry of Health (MoH)," says Dr Arturo Pesigan, Head of the Health Cluster in Yogyakarta.

“WHO mobilized its team within a few hours.”

Dr Arturo Pesigan, Head of the Health Cluster in Yogyakarta.