OPINION

Neonatal circumcision does not reduce HIV/AIDS infection rates

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Non-therapeutic, non-religious circumcision is the surgical procedure most commonly published about,[1] but substantive indications are lacking. Since its introduction to the USA during the Victorian period, when it was thought that it prevented masturbation,[2] medical justifications for the procedure progressed to prevention of various infective conditions (sexually transmitted diseases, penile and cervical cancer) and controlling of the sexual drive. Recent Joint United Nations Programme on HIV/AIDS/World Health Organization (UNAIDS/WHO) policy proposes male circumcision for the prevention of HIV/AIDS.[3,4]

HIV/AIDS in Africa is mainly spread by multiple concurrent heterosexual relationships,[5] compounded by female subjugation[6,7] and poverty.[8,9] Condoms, although highly protective, are infrequently used, particularly among circumcised males.[10,11]

The HIV/AIDS crisis demands extraordinary curtailment measures. It is, however, questionable how circumcision, and particularly neonatal circumcision, could achieve such a goal. A rational and critical analysis of the scientific evidence[12-14] ought to conclude that non-therapeutic infant circumcision is merely the medicalisation of an old ritual that should not, in the 21st century, be advocated as prevention strategy for HIV/AIDS.

Repeated publications of matching opinions do not necessarily lead to solid scientific evidence and policies.

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They rather suggest that the peer review process of journal publication may be unreliable.[15] Information overload can cause limitations, for example influencing expert and public opinion with ideological and pseudoscientific content.[16-18] This context and such therapeutic misconceptions contribute to circumcision still being practised as a non-therapeutic infant procedure. This mainly applies to English-speaking countries, where circumcision appears to have become a medicalised ritual. In contrast, in Europe non-therapeutic circumcision is not the norm.

Many reviews[19-21] question the necessity of non-therapeutic infant circumcision, showing it to have neither short- nor long-term medical benefits. It has been suggested that parents should be granted responsibility and final decision-making authority after having thoroughly considered all the relevant facts.[19] The reported increase in demand for preventive circumcision, long before publication of results of the three randomised controlled trials (RCTs) in South Africa,[22] Kenya[23] and Uganda[24] that have shown that circumcision is partially protective against HIV, suggests that informed proxy consent, within the context of the HIV/AIDS epidemic and the prevalence of poverty and ignorance, has to be seriously questioned.[25] The desperate hope and need for action of people ravaged by HIV/AIDS, rather than solid scientific evidence, may be driving the increased demand for preventive circumcision.

A recent Centers for Disease Control (CDC) and WHO report[26] confirms previous reports that circumcision does not prevent sexually transmitted diseases (STDs).[27] Teens 15 years and older in the USA have the highest rate of STDs in any industrialised country and half will contract a sexually transmitted disease by age 25, despite two-thirds of young males having been circumcised. Such reports suggest that the social experiment of circumcision to prevent STDs, including HIV, has already failed in the USA, which has the highest rate of non-therapeutic infant circumcision in industrialised countries and the highest rate of HIV in the developed world.[26]

Before the three controversial RCTs[22-24] were published, a Cochrane Systematic Review[28] concluded that there was insufficient evidence to suggest use of mass circumcision to prevent HIV/AIDS. Irrespective of this review, advocates of mass roll-out of prophylactic circumcision repeatedly published the benefits of infant non-therapeutic circumcision and either omitted to mention the Cochrane Systematic Review

or misrepresented it.[29-31] Since the Cochrane Collaboration's Review, infant non-therapeutic circumcision in South Africa has become illegal,[32] making the discussion of forced infant circumcision moot, at least in this country.

Research ethics committees appear to have accepted research proposals such as that of Auvert *et al*.[22] without considering the historical context within which non-therapeutic circumcision became so prevalent in English-speaking countries. Omitting the Cochrane Systematic Review in the research protocol and final publication raises serious concern. Similarly, peer-reviewed journals have repeatedly accepted papers that omit contradictory evidence. A journal reviewer for the *New England Journal of Medicine*, *JAMA*, *Archives of Disease in Childhood* and *Pediatrics* stated under oath that he had never accepted any paper attempting to demonstrate the inefficacy of infant circumcision as a prevention tool.[33] It therefore becomes increasingly important to question the many and similar scientific and media publications promoting the benefit of mass roll-out of circumcision as a strategy for prevention of HIV/AIDS.

The use of mass circumcision to curb HIV in Africa is ill-advised, and may worsen the crisis while expending scarce resources that could be applied better for more effective preventive measures. Neonatal non-therapeutic circumcision to combat the HIV crisis in Africa is neither medically nor ethically justifiable on the basis of current medical evidence or universally recognised ethical and human rights principles. The call for neonatal non-therapeutic circumcision for prevention of HIV by some members of the Catholic Church[31] suggests misunderstanding of the local context, and supporting genital surgery on newborn boys but discouraging the more effective preventive measure of condom use lacks logic.

Neither an explanation for the outcome of the three RCTs nor evidence that they are applicable and repeatable in real-world situations exists.[7] No field test has been performed to test the theory or to analyse its effectiveness, cost and complications. To roll out a new programme based on limited evidence, implying to the African public that circumcision could reduce the male likelihood of contracting HIV by 50 - 60%, is inconclusive and misleading.[34,35] Coercing adults and forcing infants to be circumcised is unethical. Safe-sex campaigns could accomplish much greater reductions in infection frequency, as was successfully achieved in Brazil, Thailand and Uganda, where three mainly non-circumcising countries reduced the HIV epidemic through the ABC approach (abstinence, be faithful, condomise) alone.

The Australian Federation of AIDS Organizations (AFAO) concurs that male circumcision has no role in the Australian HIV epidemic.[36] There is no demonstrated benefit of circumcision in men who have sex with men. Consistent condom use, not circumcision, is the most effective means of reducing female-to-male transmission, and vice versa; and African data on circumcision are context-specific and cannot be extrapolated to the Australian epidemic. Comparing Australia to America, they conclude: 'The USA has a growing heterosexual epidemic and very high rates of circumcision. Circumcision does not prevent HIV – in high prevalence areas, it *reduced the risk* of female-to-male transmission. HIV acquisition rates were nevertheless high in both the circumcised and the non-circumcised groups involved in the trials.'

The Royal Australasian College of Physicians policy statement on circumcision could not recommend circumcision to help stop the epidemic: 'How much circumcision could contribute to ameliorate the current epidemic of HIV is uncertain.'[37]

The French Conseil National du SIDA issued a report[38] to clarify the issues following the mass media reporting and misreporting of the three African RCTs. 'The studies are generating debate among the scientific community and are also raising a number of questions with regard to its implementation and role in terms of public health strategy. Implementation of male circumcision as part of a draft of preventative measures could destabilize health care delivery and at the same time confuse existing prevention messages. The addition of a new tool could actually cause a result opposite to that which was originally intended.'[37]

Circumcision could increase the risk of HIV

Promoting circumcision might worsen the problem by creating a false sense of security and protection and therefore undermining safe sex practices and condom usage among men and their partners.[39,40] If the 50 - 60% protective effect the RCTs claim is true, and if all African males were to be circumcised over the next 15 years, the number of infections would only be reduced by 8% and related deaths by 1%.[40,41] Men who have sex with men are not protected from HIV, even if they are circumcised.[42-44] Furthermore, the role of commercial sex workers and sexual networks has not been adequately addressed in plans to stop the epidemic.[45,46]

Another serious concern is the breakdown of sexual socialisation of the youth, coupled with the continuous erosion of the role that circumcision initiation schools once played. A norm appears to be emerging where circumcision is increasingly regarded as a gateway and right to unprotected sex[47,48] rather than a marker for assuming responsibility in sexual behaviour. This should give pause for thought concerning the practical efficacy of research, which shows some medical benefit to circumcised males in the form of protecting them against HIV while discarding the attendant socialisation within the customary context.

Further cause for concern is the confirmation of a preliminary report stating that women have an up to 60%

increased cumulative risk of contracting HIV over the period of 24 months if their male partner is HIV positive and has been circumcised.[49,50] Female opinion has generally been disregarded in the debate on male circumcision as a method for HIV prevention. Informal discussions with women reveal a range of concerns, preferences and views that researchers and governments would do well to consider before drawing up plans for rolling out a national mass circumcision programme. African women are concerned that such a programme will give their male partners another excuse not to use condoms.[11,51]

Potential complications and harms from circumcision[52]

Risks and harms of circumcision have to be considered before any mass circumcision programme could be adopted. A neonatal circumcision complication rate of 20.2% was found in Nigeria;[53] risks of methicillin-resistant *Staphylococcus aureus* and other infections in newborns increase;[54-57] and even deaths and severe complications resulting in lifelong disability have occurred.[58] Meatal stenosis affects 5 - 10% of circumcised infant males. Sexual side-effects and sensitivity loss,[59,60] as well as psychological consequences including an infant analogue of post-traumatic stress syndrome[61,62] and addictive behaviours,[63] are some more controversial claims. Whether controversial or not these claims need to be carefully considered, particularly in the context where neonatal circumcision is performed without analgesia or anaesthesia.[64]

A 'social vaccine'

Education, female economic independence, safe sex practices and consistent condom use are proven effective measures against HIV transmission. Such a strategy dropped the HIV adult prevalence rate in Uganda from over 30% in 1992 to 14% in 1995 to below 8% in 2000.[65] Consistent condom use reduces lifetime risk of contracting HIV by 20%,[66] as opposed to 8% for circumcision.[40,41]

It is the responsibility of those who insist on circumcision as a globalised roll-out for HIV prevention to prove that circumcision will not cause any short- or long-term harm. Such responsibility would imply registration of all circumcisions for HIV prevention and the collection of data, particularly of complications, including the rate of HIV acquisition of male and their female partners. Such responsibility would mean lifelong follow-up.

Parents should not be misled into thinking that the results of studies performed on adult African males could be extrapolated to health policy for newborns. It is unprecedented and unethical for a prophylactic surgery to be offered as a 'health benefit' to parents of newborns to reduce the risk of a disease acquired in adulthood for which there are safer, less invasive, less expensive, and proven prevention methods available.[10] Newborns are not sexually active and not at risk of sexually contracted diseases. Furthermore, by the time today's newborns are sexually active, a vaccine or other methods of treating the disease may be available. They may prefer to retain their foreskin and as adults choose vaccination and safe sex practices, including using condoms.

Infant circumcision is not a common African tradition. To our knowledge the Coptic Christians and black Jews in Ethiopia and Eritrea are the only African peoples who practise neonatal circumcision. Each circumcising African tribe has a specific and very different technique and ritual of circumcision. The introduction of an Americanised neonatal circumcision could be considered cultural and religious interference, and even be construed as medical colonisation.

Conclusion

Male non-therapeutic infant circumcision is neither medically nor ethically justified as an HIV prevention tool. Circumcision is not equivalent to successful immunisation, is being practised with decreasing frequency in English-speaking countries, and is becoming illegal in South Africa under the new Children's Act.[32] There are far more effective prevention tools costing considerably less and offering better HIV reduction outcomes than circumcision.

Finally, the WHO and UNAIDS appear to be basing these multi-million-dollar prevention programmes on limited and in some instances biased information. In order to prevent confusion and parents making misguided decisions on behalf of their infants, and to offer effective help in alleviating the suffering that is being created by HIV/AIDS, a much broader review process would be called for. Such a process would involve more objective scientific opinion, and the involvement of a representative panel of African experts, such as paediatric surgeons and neonatologists.

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