Male Circumcision and the Caribbean HIV Epidemic

ND Duncan

Circumcision is one of the oldest operations known to man dating back 6000 years to the early Egyptians (1, 2). The penile foreskin or prepuce is excised at circumcision leaving the glans penis exposed (1). Many advantages have been attributed to male circumcision (3); uncircumcised infants are reported to develop urinary tract infections more frequently than circumcised infants (4), circumcision may provide protection against sexually transmitted infections including chancroid, syphilis and gonorrhoea (5–7) and uncircumcised males have been shown to harbour oncogenic human papilloma virus beneath the prepuce and this organism is linked to cancer of the uterine cervix and penis (8).

The inner lining of the prepuce has a high concentration of langerhans cells which makes it susceptible to the HIV virus (9–11). Over the past two decades, a number of observational studies reported reduced transmission of HIV to circumcised males (12–15). These studies were followed by calls for randomized controlled trials to determine conclusively whether circumcision provided protection against HIV infection (14, 15).

Three such trials were conducted between 2004 and 2007, namely the South African Orange Farm study and the Kisumu, Kenya and Rakai, Uganda trials (16–18). Circumcision was shown to provide a protective benefit of 50–70% against HIV infection in these trials. The Sub-Saharan populations in which the trials were conducted had low levels of circumcision among adult males and high HIV-positive rates. The trials were conducted exclusively among heterosexuals and thus were relevant to HIV transmission from females to males.

The World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) have since recognized male circumcision to be an important intervention that can reduce the risk of heterosexually acquired HIV infection in men (19). These bodies have proposed male circumcision to be particularly relevant to countries with a high prevalence of heterosexually acquired HIV infection and a low level of male circumcision among adults (19, 20). The Caribbean, by UNAIDS/WHO estimates, has a 0.9–1.2% HIV prevalence rate (21, 22). Among adults, this figure ranges from 0.2% to 2.4%. Jamaica and Barbados have an adult HIV prevalence rate of 1.5% (22). The Caribbean region's HIV prevalence rate is second only to Sub-Sahara Africa and like the Sub-Saharan region, the Caribbean HIV epidemic is primarily heterosexually driven (23–25). Sixty per cent of HIV-positive Caribbean persons are in the heterosexual group (22) and homosexual transmission accounts for 15% and injection drug use, 2% (22). Jamaica and Trinidad and Tobago, the two largest of the English-speaking islands have estimated circumcision rates of 5–8% among adult males (26, 27). The Caribbean's low level of circumcised males and high heterosexual HIV transmission makes it a prime candidate for circumcision promotion.

Many factors militate against the adoption of a male circumcision policy in the Caribbean, these include: divided opinions among health professionals on the benefits of circumcision, misconceptions on the possible effects of circumcision on sexual performance and widespread ignorance among health-workers and administrators of WHO recommendations on the role of circumcision in a HIV epidemic (26–28). Bain reported that 12 of 18 National AIDS Programme Coordinators from the Caribbean reported that there was no public debate on male circumcision as a HIV preventive measure in their countries (26). Figueroa reporting from Jamaica found that there was reluctance among policy-makers to promote male circumcision in adults because of long surgical waiting lists and doubts about cost effectiveness (26). In Trinidad and Tobago, there has been little or no response from health administrators to WHO pronouncements on male circumcision and this has led to sporadic calls for action in the public print media (27, 28).

Circumcision in the Caribbean is under-reported in the medical literature. A solitary publication from Jamaica on 305 neonatal cases circumcised over a 3-year period (2000–2003) highlighted a low complication rate and good parental satisfaction (29). The low level of newborn circumcision on the island of Jamaica arose from wide scale opposition to the procedure from practicing paediatricians, influenced by position statements originating from the Royal College of Surgeons of England and the American Academy of Paediatrics (30, 31). These bodies are opposed to routine circumcision and profess neutral positions on its health advantages.

The age to undertake circumcisions for maximal effect on HIV virus transmission in the Caribbean should be explored. Circumcision performed during the neonatal period for HIV prevention though inexpensive and safe raises ethical questions about compromising a child's bodily integrity for a potential future advantage (32–34). Circumcisions undertaken on adults are too late for many who become exposed to HIV during normal sexual activity in early life (32). Circumcisions performed during pre-adolescence have relevance for the Caribbean because this region has a low mean age of sexual initiation: 13.2 years in Trinidad and Tobago and 16 years in Jamaica (24, 35). These early initiation ages for males arises because young Caribbean males are expected by their peers to have frequent sex and multiple sex partners (36). Circumcision of pre-adolescents however raises the issue of assent (32, 37) which ethically is mandatory for the older child undergoing operative procedures (32, 37). Circumcision of the older

child is a costly exercise, requiring general anaesthesia, operating theatre facilities and support personnel. An approximate cost of 200–300 $US per child would make male circumcision unattractive for public sector support because Caribbean governments are continuously making cost benefit judgments because of shrinking health budgets.

Public health practitioners worldwide fear organized programmes promoting circumcision because of the risk of sending wrong messages, that can lead to complacency in persons at risk for HIV (12, 19, 22, 23, 35). Educational programmes, therefore, must highlight the fact that circumcision protects against female to male viral transmission during heterosexual exposure but offers no protection against male to female or male to male transmission during anal penetration (34).

In conclusion, the time is right for discussions among health professionals on the potential usefulness of male circumcision as a preventative measure against HIV spread in the Caribbean. It is obvious that even if circumcisions are not supported by the public purse, sensitizing males to the proven advantages of circumcision in the era of HIV is important, even if this knowledge only allows some to make an individual choice in keeping with lifestyle risks (26).

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