Point of View: Interpreting and dismissing the relevance of the "wait and wipe" finding from the circumcision studies conducted in Africa

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Abstract

Some of the secondary findings from the circumcision studies conducted in Africa, are both interesting and difficult to explain. This paper focuses on the finding that uncircumcised men who waited for ten minutes after sexual intercourse and then wiped their penises using a dry cloth, had lower rates of HIV infection compared to those who cleaned using a wet cloth or those who cleaned within three minutes of having intercourse. The paper also focuses on the finding on men who became infected and yet they reported no sexual acts or 100% condom use. Interpretations that have been provided so far in trying to explain these two interesting findings are somewhat inadequate. Because of the inadequate interpretation that has been provided, anti-circumcision lobbyist are presenting the "wait and wipe strategy" as an alternative to circumcision for HIV prevention. In this paper, we argue that waiting for ten minutes and wiping with a dry cloth does not prevent men from becoming infected by HIV. We therefore attempt to present some alternative views.

Introduction

The prevention of HIV infections has proven to be a difficult task because of the interplay of social, psychological, economic, personal, biological and other factors. The various factors often lead to challenges in the design, implementation of HIV prevention studies as well as the interpretation of findings. This paper is an attempt to provide alternative interpretations to some of the findings from previous circumcision research conducted in Africa. The paper is not aimed at critiquing the way the studies were conducted but is merely aimed at reviewing some of the interesting findings and also at providing alternative views. While there were various and interesting findings from the previous studies, this paper only focuses on two secondary findings; uncircumcised men who waited for ten minutes after sexual intercourse and then wiped their penises using a dry cloth, had lower rates of HIV infection compared to those who cleaned using a wet cloth or those who cleaned within three minutes of having intercourse[1]; and men who became HIV infected despite having reported no sex or 100% condom use[2]. The first finding has gained popularity among some individuals and groups who are now arguing for the "wait and wipe" strategy as a substitution for male circumcision in HIV prevention[3-8].

The current drive on circumcision as an important HIV prevention strategy is based on findings from 3 large studies conducted in Kenya, South Africa and Uganda[2,9,10]. The studies have provided data which support the view that circumcision provides men with some level of protection against HIV infection. Specifically, the Uganda study commonly referred to as the Rakai Study, reported that men in the circumcised group got HIV at the rate of 0.66% per year compared to 1.33% per year for men in the uncircumcised group[2]. The Uganda study also reported that uncircumcised men who waited for at least 10 minutes after sexual intercourse before cleaning their penises by just wiping using a dry cloth, had lower infection rate of 0.39% per 100 person years[1]. The authors who reported this interesting finding however suggested caution in promoting any post-coital cleansing method as an alternative to male circumcision for HIV prevention in this specific rural setting[1].

The uncircumcised men who cleaned their penises within three minutes after sex had a higher rate of 2.32% per 100 person years while those who used water for cleaning at any time after sex also had a higher rate of 2.26% per 100 person years[1]. HIV incidence was higher among those reporting washing-alone (2.20/100 person years), than those reporting use of a cloth and washing (1.04/100 person years) and those using a cloth-alone (0.55/100 person years). These findings suggests that the uncircumcised men who waited for at least 10 minutes before wiping with a dry cloth experienced a significantly reduced risk of HIV infection compared to those that washed within 3 minutes of intercourse. Interestingly, the uncircumcised men who waited at least 10 minutes to clean using a dry cloth were even at lower risk than men who reported no sexual partners or consistent condom use. Men who reported no sexual activity experienced a rate of 0.51 cases per 100 person years for those in the intervention group and 0.45 for those in the control group[2]. In trying to explain the interesting finding on waiting and wiping, some have speculated that washing could have removed enzymes in vaginal fluid that neutralize HIV[11]. One other commentator has opined that washing removes secretions from men that may have viral defenses[3]. In response to the opinion that washing removes useful vaginal secretions, some have further opined that post-coital cleaning could also have been linked to other behaviors that accounted for some of the infections, but they did not provide any suggestions on these behaviours[12]. This interesting finding on waiting and wiping, has led to a growing body of anti-circumcision lobbyists who are calling for the wait and wipe strategy as an alternative to circumcision[3-8]. One of the anti-circumcision lobbyists suggests that the message to African men should be that they should not go for circumcision but should wait at least 10 minutes after sexual intercourse to clean their penises, and then simply clean by wiping using a dry cloth, without water, detergent or other fluid. The lobbyist further suggests that programs to circumcise men and babies in Africa should be suspended pending further research on the impact of post-coital penile cleaning on HIV incidence[3].

Also interesting in the circumcision trials, was the finding that sixteen of the 67 incident infections recorded during the Rakai trial occurred in men who reported no sex (6 infections) or 100% condom use (10 infections)[2]. The Ugandan researchers have attributed this interesting finding to underreporting of sexual activity and overreporting of condom usage[2]. Some have suggested that these infections came from blood exposures. Specifically, some have opined that men who were most worried about HIV from unprotected sex washed immediately after sex and then went for injections as they suspected that they could have acquired some sexual infections, and that they were injected using, unsafe injections[3,12]. This explanation however does not account for those who did not engage in any sexual activity

as well as those who used condoms 100%. During the circumcision study, the men were asked whether they had received injections or transfusions healthcare centres and they had denied this[2].

Regarding the 'waiting and wiping' finding, the interpretation that washing or wiping using a wet cloth removed some useful enzymes that are present in the vaginal secretions or sperms, excludes the role of the human factor in promoting the spreading of the HIV virus. This explanation also suggests that a significant proportion of infections occur after withdrawal. This explanation also does not take into cognizance the fact that coitus may take several minutes as well as some serious physical activity that may result in bruising, thereby creating opportunities for infection during the act. Rough sex, dry sex or forced sex often lead to friction, tears and bleeding. It is well documented that the membrane linings of the body cavities especially in the rectal area and vaginal region are very delicate and bruises that can occur there during sexual intercourse due to friction are a risk factor for HIV transmission[13,14].

Sexually transmitted infections (STIs) such as syphilis, gonorrhea or herpes result in multiple sores on the genital parts thereby promoting viral entry into the blood stream from an HIV infected partner. An untreated STI in either partner increases the risk of HIV transmission during unprotected intercourse by an estimated ten-fold[13,14]. The discharges produced by many STIs contain a very high concentration of HIV virus if that person is also HIV positive. The wait and wipe lobbyists have not taken into consideration the very high prevalence of STI in high risk populations especially in African countries and we argue that the wait and wipe strategy is not a plausible strategy. We therefore find it both interesting and puzzling that waiting and wiping can be proposed as a strategy for prevention of HIV transmission and part of penile hygiene.

In trying to take the human factor into the 'wait and wipe finding', we propose an alternative explanation. It is possible that those who washed their penises in less than three minutes did so out of fear – because they were aware that they had just had sex with a high-risk woman that they highly suspected was HIV infected. For example after a person has unprotected sex with a commercial sex worker, immediately after the sex act, they panic and rush to clean their penis using whatever is available including water and detergents – but the damage would already have been done. Such men would use water and soap as a way of removing the germs and the virus. In reality, therefore, having sex with someone that one knows to engage in high-risk behavior, places one at a higher risk of HIV infection. On the other hand, those who would have waited for more than 10 minutes, were men who were not concerned about getting infected because they were having sex with women that they believed were low risk or trustworthy. Such men, would clean their penises using dry cloth so as to remove the stickiness of the sperms and vaginal fluid and not out of fear of getting an STI. The cleaning after more than 10 minutes and the use of the dry cloth may not be coincidental after all.

If one were to take this alternative interpretation seriously, it would therefore be premature for one to recommend the 'wait and wipe' strategy as an alternative to the circumcision HIV prevention strategy. In fact we argue that there is no need to conduct further research on the role of the waiting and the wiping using a dry cloth as it is simply a coincidental finding. Instead, it would have been useful to find out why some men cleaned within three minutes while some were not in a rush to clean their penises after sex. What was the motive behind the cleaning? In a qualitative study conducted in Kenya, men reported that they could not clean their penises before sex as this would arouse suspicion of infidelity among their female partners. Men reported that they would wash their penises after having sex with prostitutes as a way of reducing the risk of getting infected by STIs[15]. These findings support the importance of perceived risk and trust in making judgments regarding personal protection.

The finding concerning the men who became HIV infected whilst using condoms 100% or those who report that they did not have any sexual encounter, is not only interesting but also baffling. The interpretation given about use of unsafe needles is certainly based on pure speculation. With all the campaigns on safe needles that have been going on, where on earth can one still find health professionals using unsafe needles? Of all places, Uganda is one country which has taken some very positive and practical steps to ensure that HIV infections are minimized.

For those who reported 100% condom use, there could be various other explanations including condoms breaking during the act, or starting the act without a condom and then wearing one mid-way or other practices such as finger sex or oral sex that the men did not report during the interviews due to various reasons. If one were to believe that these men got infected after truly abstaining or using condoms 100%, one may safely opine that perhaps some of the men had undetectable levels of virus in their bodies at the time of entry into the circumcision study. The virus levels could not be detected using the HIV testing technology that was used during the study. The viral levels then rose to detectable levels during the study. The array of interpretations imply that circumcision studies need to be designed in such a way that they address these human elements while at the same time being conducted using high ethical standards. The possibility of an array of interpretations also implies the need to think wide when designing future HIV prevention trials.

It is undisputed that HIV prevention research presents some serious methodological and ethical challenges. It is also undisputable that HIV prevention research is essential. Rigour in design, implementation and interpretation will ensure that we get results that are more useful and not easily disputed. The above discussion has illustrated need for caution in the interpretation of findings. Biological interpretations that exclude the human behavioral element may not adequately explain some of these very interesting and yet tricky findings. The area of HIV prevention research can only be strengthened by meaningful interdisciplinary collaborations at all stages including design, implementation, interpretation and evaluation.

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