The effect of male circumcision on sexual satisfaction and function: Results from a randomized trial of male circumcision for human immunodeficiency virus prevention, Rakai, Uganda

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letters

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THE EFFECT OF MALE CIRCUMCISION ON SEXUAL SATISFACTION AND FUNCTION: RESULTS FROM A RANDOMIZED TRIAL OF MALE CIRCUMCISION FOR HUMAN IMMUNODEFICIENCY VIRUS PREVENTION, RAKAI, UGANDA

Sir,

The most recent paper on male circumcision and its impact on sexual satisfaction [1] provided no details on the type of circumcision used in the volunteers. Correspondence with one of the authors, Dr. Stephen Watya, who is in charge of supervising and training medical personnel to do the operations, revealed that the sleeve technique was used, with the incision 0.5–1 cm from the frenulum. Further clarification with Dr. Watya confirmed that the entire frenular area, including the frenulum, was left completely intact in all of these volunteers.

It is known from previous research that the frenular area houses erogenous tissue [2,3] and comprises the most sensitive areas on the penis [4]. A key argument used in support of the idea that human genital cutting has a negative effect on sexuality is that the removal of sexual 'hardware' reduces the range and complexity of available sensation. It follows that any study which purports to assess such effects should consider the quantity and quality of tissue removed. This is the case with much of the research in female genital cutting, where different styles of cutting are discussed and their differential effects examined [5].

The current study is unique as all the volunteers had the same type of circumcision, and all were spared their most sensitive areas. As the study failed to discuss this important detail, many might generalize these results to circumcisions that are carried out for cultural or religious reasons in other parts of the world, yet which might involve the removal of some or all of the frenular tissue, due to different techniques and type.

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1 **Kigozi G, Watya S, Polist CB *et al.*** The effect of male circumcision on sexual satisfaction and function, results from a randomized trial of male circumcision for human immunodeficiency virus prevention, Rakai, Uganda, *BJU Int* 2008; **101**: 65–70
2 **Winkelmann RK.** The erogenous zones: their nerve supply and significance, *Mayo Clin Proc* 1959; **34**: 39–47
3 **Taylor JR, Lockwood AP, Taylor AJ.** The prepuce: specialized mucosa of the penis and its loss to circumcision. Br *J Urol* 1996; **77**: 291–5
4 **Sorrells ML, Snyder JL, Reiss MD *et al.*** Fine-touch pressure thresholds in the adult penis. *BJU Int* 2007; **99**: 864–9
5 **Department of Reproductive Health and Research (RHR),** World Health Organization. A systematic review of the health complications of female genital mutilation including sequelae in childbirth. WHO, 2001

Sir,

I read this article with professional anticipation. I was originally impressed by the large number of participants and by the researchers' success in securing adequate numbers for follow-up (at least in the first year). However, on closer scrutiny of the data I find the authors' conclusions rather debatable.

Table 2 (displayed) offers the readers an excellent overview of the outcome. Particularly the last column shows an impressively improved sexual health over the 2 years, especially in the control group! The non-specific sexual health-promoting elements in the programme must have been extraordinarily effective. Men with dysfunctions such as erectile failure, ejaculation problems and penetration difficulties were cured almost without exception, and the reported level of satisfaction also improved immensely. Comparatively, the circumcised group improved in only two of these four problem areas. 'Low desire' was the fifth problem that was cured in a significant number of controls. In the experimental group, *P* was just 0.01 lower, but a strict application of statistics inevitably implies that the level of significance is reached in the control group and not in the experimental group. Dyspareunia was the sole complaint to break the general pattern, with maximum results for the circumcised and below-significance value for controls. I return to this point later.

The inevitable conclusion therefore must be that men who are not in perfect sexual health will benefit from the non-surgical elements in this project's protocols, and that improvement is considerably hampered by circumcision. This irrefutable outcome is all the more remarkable because closer assessment of the groups shows that randomization has not been very successful, as the controls were definitely in poorer sexual health at the start of the project. Table 2 presents the exact numbers of those with any of the six dysfunctions:

Dysfunction	Controls	Circumcised
Low desire	41	31
Low satisfaction	38	28
Erectile failure	35	21
Penetration problems	46	34
Ejaculation problems	12	11
Dyspareunia	24	23

The difference between arms (controls and circumcised) was not significant for any of

these dysfunctions (although for erectile failure it was close). However, there must be statistical methods to prove that these six skewed distributions (all in favour of the experimental group) cannot purely be attributed to coincidence. After all, when a coin is tossed six times, and six times it is tails, one would definitely be alerted to check the coin for bias.

It can therefore be assumed that randomization was imperfect and that the power of this research is thus further limited, because it could not be blinded. Indeed, not even single-blinded; the authors do not conceal the unfortunate fact that during the follow-up interviews the interviewer was (in most cases) aware of the interviewee's circumcision status. This implies a serious limitation of the study's objectivity. In the heading, the study is definitely overrated as a 'randomized controlled trial' (RCT).

Consequently, I am tempted to challenge the trend-breaking outcome on the genital pain issue, especially the opposite outcomes of this question and that of penetration difficulty is hard to understand. One would expect that, in at least a certain proportion of cases, penetration difficulties are caused by male genital pain. It is conceivable that the subject of pain is understood as pivotal by the circumcised interviewees, so a tendency towards bias (pleasing the interviewer) could be most outspoken for precisely this question.

In summary, Kigozi *et al.* are to be warmly congratulated on their tremendous success in sexual health promotion and I am looking forward to a more extensive article on the non-surgical part of their project. However, they should acknowledge that circumcision seriously jeopardizes their preventive efforts, especially when men with sexual problems are included without further consideration.

Some of this project's control group participants might count their blessings, that they retreated from their original decision to have a circumcision at the start of their participation. If control group participants were really keen on the surgery, we would have expected the control group to show fewer discontinuations at the end, i.e. the moment they are entitled at last to have their circumcision. Numbers contradict this; withdrawal rates were equal in the experimental and the control group. One could say that many withdrawals in the control group at the 2-year follow-up 'voted with their feet' against circumcision.

Finally, being reasonable, for a group so highly motivated as these participants appear to have been, there are alternative, more conservative methods available for preventing HIV and sexually transmitted disease.

Jelto J. Drenth,
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Reply

The letter by Dr Drenth about our paper on sexual satisfaction and function associated with adult circumcision selectively uses our data to argue that there were imbalances in the proportions of men reporting sexual dysfunction at baseline, as shown in Table 2 of our paper and the derived Table in his letter. Despite the comparability in sociodemographic and behavioural characteristics at enrolment (Table 1 in the paper) and the lack of any statistically significant differences in sexual satisfaction/function reported at enrolment (in Table 2), he asserts, on the basis of his table, that there were numerically more men in the control arm who reported sexual problems at enrolment, but he fails to note that the proportions with such problems are trivially small given the large sample size. He also argues that the greater number of reported sexual problems in the control arm at enrolment would be unlikely to occur by chance, as illustrated by comparison with tossing coins many times. However, he fails to understand that a series of coin tosses are independent of one another, whereas men with one sexual problem are more prone to report multiple symptoms and thus symptoms are not independent. Moreover, we subjected the data in Dr. Drenth's table to a chi-quare test on five degrees of freedom; the chi-square was 1.6, and the *P* value was 0.9. Thus, even if these symptoms were independent, the differences are statistically insignificant.

Dr. Drenth asserts that "it can be assumed that randomization was imperfect", that there is a "serious limitation to the study objectivity" and that "the study is definitely overrated as a RCT". We are puzzled by these remarks. The trial enrolled almost 5000 men (a very large sample); the randomization process was rigorous and completely transparent; the trial was conducted with extensive methodological oversight by an independent DSMB and external NIH monitors; and there were *no* statistically significant differences between study arms at enrolment. By every definition, this was indeed a RCT. The original trial report was nominated by *The Lancet* as among the 10 most important papers in 2007. In summary, Dr. Drenth's criticism does not stand up to scientific scrutiny.

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