Published in final edited form as:
AIDS. 2013 February 20; 27(4): 662–664. doi:10.1097/QAD.0b013e32835c557c.

The accuracy of women's reports of their partner's male circumcision status in Rakai, Uganda

Xiangrong Kong[1], **Anthony Ndyanabo**[2], **Fred Nalugoda**[2], **Godfrey Kigozi**[2], **Joseph Ssekasanvu**[2], **Tom Lutalo**[2], **David Serwadda**[3], **Maria Wawer**[1], and **Ronald Gray**[1]

[1]Department of Epidemiology, Johns Hopkins University, Baltimore, MD, USA [2]Rakai Health Sciences Program, Rakai, Uganda [3]School of Public Health, Makerere University, Kampala, Uganda

Abstract

We assessed whether women had accurate knowledge of their partners' male circumcision (MC) status using survey data (2010–2011) from Rakai, Uganda, and examined characteristics of women who misreported MC status. Among couples in which men were uncircumcised (N=1744), 8.2% women misreported; and among couples where men were confirmed circumcised (N=759), 1.2% women misreported. Younger women were 2.2 times more likely to misreport compared to older women. Misreporting was not associated with other sociodemographics or behavioral characteristics. If women are to act as advocates for MC acceptance, there is a need to educate women, particularly younger women about the nature and recognition of MC.

Keywords

Female misreporting; male circumcision scale-up; women group

Introduction

Male circumcision (MC) is an important strategy for the prevention of heterosexually-acquired HIV infection in men and other sexually transmitted infections in both men and women [1–6]. WHO/UNAIDS have identified thirteen priority sub-Saharan Africa (S-SA) countries for MC scale-up[7]. While the long-term population-level impact of MC on the HIV epidemic depends on the pace of uptake and level of coverage in men, women can play an important role in men's decision to accept MC. Qualitative studies in S-SA suggest that women's groups may provide venues to mobilize their husbands or sex partners to accept MC[8–12]. Using women as mobilizers to facilitate MC acceptance by men, however, requires that women have accurate knowledge of their partners' circumcision status. We examined the accuracy of women's reports of their partner's MC status using survey data on linked couples and MC service records from Rakai, Uganda, and identified characteristics of women who misreported their partners' MC status.

Method

The Rakai Health Sciences Program (RHSP) conducts annual household census in 50 communities of rural Rakai District. Eligible consenting residents aged 15–49 years are then

Correspondence: Xiangrong Kong, Ph.D, Department of Epidemiology, Johns Hopkins University Bloomberg School of Public Health, 627 N. Washington St. RM2-C, Baltimore, MD, 21205, xikong@jhsph.edu.

individually interviewed by trained same-sex RHSP staff who collect detailed sociodemographic and behavioral information using structured questionnaires. Men are specifically asked whether, when and where they were circumcised, and women are asked about each of their partner's MC status (up to four partners). Interview data can be linked for couples who are married or in long-term consensual relationships using household census data on familial relationships. For this analysis, we used couples data from the survey conducted in 2010–2011 which is a period when information about the health benefits of MC for prevention of HIV and sexually transmitted infections had been disseminated, and free MC services were widely available and promoted in Rakai. This analysis is confined to non-Muslim couples, since nearly all Muslim men (who represent ~15% of Rakai men) were circumcised as infants and thus are not eligible for adult MC.

The MC status of the male partner in each couple was determined by the male's self-report, validated by RHSP MC clinic records. RHSP conducted two MC trials during 2003–07[6, 13], and since 2007, RHSP has been the primary provider of MC services and the sole provider of *free* MC for the general male population in Rakai. Over 75% of men who self-reporting circumcised could be confirmed by RHSP clinic records (the additional 25% reported circumcision by private practitioners or unidentified sources, and thus could not be verified). All men self-reporting themselves as uncircumcised were verified not to have received MC by RHSP service records. Using data for men whose MC status could be validated by RHSP service records (either as being uncircumcised or circumcised), we assessed whether their female partners correctly reported the men's MC status by cross tabulating women's reports versus the validated MC status of men.

We further assessed whether female misreporting was associated with their sociodemiographic characteristics and sexual risk behaviors (condom use, number of sex partners, and sex-related alcohol use during the past year), using Pearson χ^2-test or Fisher's exact test. In addition, the association between availability of electricity in the household and the accuracy of women's report was examined, as qualitative interviews with Rakai women had identified lack of electric lighting at home as a potential barrier to women's knowledge about their sex partners' MC status [JS, pc].

Results

There were 2714 non-Muslim couples identified, and the MC status for 2503 of the couples (92.2%) could be validated using RHSP MC service records. Of the 2503 couples, 759 men (30.3%) were confirmed to be circumcised, and 1.2% of their female partners incorrectly reported them as uncircumcised (n=8) or answered "don't know" (n=1). Among the 1744 uncircumcised men, 8.2% of their female partners misreported them as circumcised (n=136) or answered "don't know" (n=7). The overall rate of female misreporting of men's MC status (including "don't know" responses) was 6.1%.

Table 1 summarizes the sociodemographic characteristics and sexual risk behavior profiles of women and availability of electric lighting at home by accuracy of women's report on their partners' MC status. Women's age was significantly associated with misreporting: the proportion of misreporting was 9.6% (78/812) in younger women (age<25 years), compared with 4.4% (74/1691) in women aged 25–49. Thus, the missreporting rate in younger women was 2.2 (95% CI 1.6– 3.0) times higher than in older women. The proportions of misreporting did not differ by the education, occupation, and risk behavioral profiles of women, nor by availability of electricity in the household.

Discussion

Our data indicate women who are married or in long-term stable consensual relationships may not have accurate knowledge of their sex partner's MC status. Similar findings were reported for women (including both married and unmarried women in urban and rural Zambia (7% and 5% misreporting, respectively), and in urban Swaziland (13% misreporting)[14]. Our results suggest that MC prevalence estimated from women's reports would overestimate the true MC prevalence, since female misreporting was more common when men were in fact uncircumcised.

Younger women were found more likely to misreport their partner's MC status. In RHSP communities, approximately 35% of women aged 15–49 are not in a marital/consensual union, most of whom are younger. If such women were included in population-level surveys, the overall proportion of misreporting is likely to be higher than currently observed among women who were married or in stable consensual relationships. Additionally, compared to women from the 50 RHSP communities, women in the general population have less exposure to MC messages and thus may have an even higher misreporting rate.

Women with uncircumcised sex partners may have misreported them to be circumcised due to a social desirability bias. However, in depth interviews with Rakai women suggested that misreporting was more likely to be due to a lack of a clear understanding of MC [RG pc]. Therefore, using women as potential motivators to increase MC uptake in men will need to first educate women about the nature and recognition of MC, and such education should particularly target younger women. Older women in the communities who traditionally advise younger women on marriage related issues and behaviors [15] may also play the role of educating younger women about MC.

Acknowledgments

Kong X. and Gray R. conducted the literature review, data analysis, and manuscript preparation. Kigozi G, Nalugoda F, Wawer M. Serwadda D. and Gray R. designed and lead the field work in data collection. Ndyanabo A and Ssekasanvu J coordinated the data cleaning and management, and helped with data analysis and interpretation. This research is based on funding from the Bill and Melinda Gates Foundation, the National Institute of Allergy and Infectious Diseases, and a faculty grant from the Johns Hopkins University Center for Global Health for Kong X.

This work was conducted with funding from NIAID, the Gates Foundation, and the Johns Hopkins Center for Global Health.

References

1. Tobian AA, Serwadda D, Quinn TC, Kigozi G, Gravitt PE, Laeyendecker O, et al. Male circumcision for the prevention of HSV-2 and HPV infections and syphilis. N Engl J Med. 2009; 360:1298–1309. [PubMed: 19321868]
2. Gray RH, Serwadda D, Kong X, Makumbi F, Kigozi G, Gravitt PE, et al. Male circumcision decreases acquisition and increases clearance of high-risk human papillomavirus in HIV-negative men: a randomized trial in Rakai, Uganda. J Infect Dis. 201:1455–1462. [PubMed: 20370483]
3. Wawer MJ, Tobian AA, Kigozi G, Kong X, Gravitt PE, Serwadda D, et al. Effect of circumcision of HIV-negative men on transmission of human papillomavirus to HIV-negative women: a randomised trial in Rakai, Uganda. Lancet. 2011; 377:209–218. [PubMed: 21216000]
4. Auvert B, Taljaard D, Lagarde E, Sobngwi-Tambekou J, Sitta R, Puren A. Randomized, controlled intervention trial of male circumcision for reduction of HIV infection risk: the ANRS 1265 Trial. PLoS Med. 2005; 2:e298. [PubMed: 16231970]
5. Bailey RC, Moses S, Parker CB, Agot K, Maclean I, Krieger JN, et al. Male circumcision for HIV prevention in young men in Kisumu, Kenya: a randomised controlled trial. Lancet. 2007; 369:643–656. [PubMed: 17321310]

6. Gray RH, Kigozi G, Serwadda D, Makumbi F, Watya S, Nalugoda F, et al. Male circumcision for HIV prevention in men in Rakai, Uganda: a randomised trial. Lancet. 2007; 369:657–666. [PubMed: 17321311]
7. Male circumcision for HIV prevention: research implications for policy and programming. WHO/UNAIDS technical consultation, 6–8 March 2007. Conclusions and recommendations (excerpts). Reprod Health Matters. 2007; 15:11–14. [PubMed: 17512369]
8. Herman-Roloff A, Otieno N, Agot K, Ndinya-Achola J, Bailey RC. Acceptability of medical male circumcision among uncircumcised men in kenya one year after the launch of the national male circumcision program. PLoS One. 2011; 6:e19814. [PubMed: 21603622]
9. Lukobo MD, Bailey RC. Acceptability of male circumcision for prevention of HIV infection in Zambia. AIDS Care. 2007; 19:471–477. [PubMed: 17453585]
10. Ngalande RC, Levy J, Kapondo CP, Bailey RC. Acceptability of male circumcision for prevention of HIV infection in Malawi. AIDS Behav. 2006; 10:377–385. [PubMed: 16736112]
11. Rain-Taljaard RC, Lagarde E, Taljaard DJ, Campbell C, MacPhail C, Williams B, et al. Potential for an intervention based on male circumcision in a South African town with high levels of HIV infection. AIDS Care. 2003; 15:315–327. [PubMed: 12828151]
12. Albert LM, Akol A, L'Engle K, Tolley EE, Ramirez CB, Opio A, et al. Acceptability of male circumcision for prevention of HIV infection among men and women in Uganda. AIDS Care. 23:1578–1585. [PubMed: 21732902]
13. Wawer MJ, Makumbi F, Kigozi G, Serwadda D, Watya S, Nalugoda F, et al. Circumcision in HIV-infected men and its effect on HIV transmission to female partners in Rakai, Uganda: a randomised controlled trial. Lancet. 2009; 374:229–237. [PubMed: 19616720]
14. Hewett PC, Haberland N, Apicella L, Mensch BS. The (mis)reporting of male circumcision status among men and women in Zambia and Swaziland: a randomized evaluation of interview methods. PLoS One. 2012; 7:e36251. [PubMed: 22629312]
15. Mukiza-Gapere J, Ntozi JP. Impact of AIDS on marriage patterns, customs and practices in Uganda. Health Transit Rev. 1995; 5(Suppl):201–208. [PubMed: 10159891]

AIDS. Author manuscript; available in PMC 2014 February 24.

Table 1

Comparisons of sociodemiographic characteristics, sexual risk behaviors and availability of electric lighting at home between women who misreported and those who accurately reported their husbands' MC status.

	Women who misreport partner's MC status[a]		Women who correctly reported partners MC status		
	(n=152)	%	(n=2351)	%	P-value
Age					<.001
15–19	22	10.3	192	89.7	
20–24	56	9.4	542	90.6	
25–29	30	4.8	595	95.2	
30–39	37	4.0	881	96	
40+	7	4.7	141	95.3	
Education					0.99
No education	9	6.0	141	94	
Primary	98	6.0	1528	94	
Secondary and plus	45	6.2	680	93.8	
Occupation					0.12[b]
Agriculture related	101	5.6	1694	94.4	
Housework or office work	16	5.8	259	94.2	
Trading/vending, bar worker	30	9.2	298	90.9	
Unemployed or casual laborer	5	4.8	100	95.2	
Condum use in the past year					0.11[b]
Always	5	5.3	89	94.7	
Sometimes	33	8.4	358	91.6	
Never	114	5.7	1904	94.4	
Alcohol use before sex					0.35
Sometimes	135	6.3	2025	93.8	
Never	17	5.0	326	95	
Number of sex partners in the past year					0.13[b]
0–1	146	6.0	2306	94	

		Women who misreport partner's MC status[a] (n=152)	%	Women who correctly reported partners MC status (n=2351)	%	P-value
	>=2	6	11.8	45	88.2	
Having electricity at home						0.82
	Yes	11	5.7	182	94.3	
	No	141	6.1	2169	93.9	

[a]: Women reporting "don't know" were included.

[b]: P-value was obtained using Fisher's exact test when any cell size is less than 10.