PERGAMON

Social Science & Medicine 58 (2004) 787–798

SOCIAL SCIENCE & MEDICINE

www.elsevier.com/locate/socscimed

Coercive sex in rural Uganda: Prevalence and associated risk factors

Michael A. Koenig[a,*], Tom Lutalo[b], Feng Zhao[a], Fred Nalugoda[b], Noah Kiwanuka[b], Fred Wabwire-Mangen[c], Godfrey Kigozi[b], Nelson Sewankambo[d], Jennifer Wagman[e], David Serwadda[b], Maria Wawer[e], Ron Gray[a]

[a] *Department of Population and Family Health Sciences, Bloomberg School of Public Health, The Johns Hopkins University, 615 N. Wolfe Street, Baltimore, MD 21205, USA*

[b] *Rakai Project, Uganda Virus Research Institute, Entebbe, Uganda*

[c] *Institute of Public Health, Makerere University, Kampala, Uganda*

[d] *School of Medicine, Makerere University, Kampala, Uganda*

[e] *Joseph L. Mailman School of Public Health, Hielbrunn Center for Population and Family Health, Columbia University, New York, NY, USA*

Abstract

Despite growing recognition of the problem, relatively little is known about the issue of coercive sex in developing countries. This study presents findings from a community-based survey of 4279 reproductive-aged women in current partnerships in the Rakai District of Uganda carried out in 1998–99. One in four women in our study report having experienced coercive sex with their current male partner, with most women reporting its occasional occurrence. In a regression analysis of risk factors for coercive sex, conventional socio-demographic characteristics emerged as largely unpredictive of the risk of coercive sex. Behavioral risk factors—most notably, younger age of women at first intercourse and alcohol consumption before sex by the male partner—were strongly and positively related to the risk of coercive sex. Coercive sex was also strongly related to perceptions of the male partner's HIV risk, with women who perceived their partner to be at highest risk experiencing almost three times the risk of coercive sex relative to low risk partnerships. Supplemental analysis of 1-year longitudinal data provides additional support for the hypothesis that coercive sex may frequently be a consequence of women's perceptions of increased HIV risk for their male partner. The findings of this study are discussed in terms of the need for sexual violence prevention programs more generally in settings such as Uganda, and in terms of the possible importance of incorporating issues of sexual and physical violence within current HIV prevention programs.

© 2003 Elsevier Science Ltd. All rights reserved.

Keywords: Sexual coercion; Intimate partner violence; Gender; Uganda

Introduction

Over the past decade, there has been increased international recognition of the scope and significance of domestic violence globally. The World Health Organization defines domestic violence as: "…the range of sexually, psychologically and physically coercive acts used against adult and adolescent women by current or former male intimate partners." (WHO, 1997, p. I-3). Studies in a diverse range of developing countries report high rates of domestic violence, ranging from 20 percent to as high as 50 percent or more of women in marriage or current partnerships (Heise et al., 1994). Sexual

*Corresponding author.
E-mail address: mkoenig@jhsph.edu (M.A. Koenig).

0277-9536/03/$ - see front matter © 2003 Elsevier Science Ltd. All rights reserved.
doi:10.1016/S0277-9536(03)00244-2

violence and coercion comprise a significant component of overall domestic violence. Although evidence remains limited, there is increased recognition of the links between coercive sex and adverse reproductive health outcomes—including unintended pregnancy, non-use of contraception, unsafe abortion, gynecological morbidity, and HIV/AIDS (Heise, Moore, & Toubia, 1995; Maman et al., 2000; Garcia-Moreno & Watts, 2000).

The cultural sensitivity surrounding the issue of sexual behavior, and sexual coercion in particular, has made this a particularly challenging area in which to undertake community-based research. The issue of sexual coercion and violence has received considerable attention in industrialized countries. A recent national study in the United States found that 8 percent of women reporting lifetime experience of rape by an intimate partner (Tjaden & Thoennes, 1998); and 22 percent of women in the National Health and Social Life Survey reported having ever been forced by a man to do something sexual they did not want (Laumann, Gagnon, Michael, & Michaels, 1994). Somewhat higher rates of coercion have been reported in settings such as Japan, with one study reporting that 15 percent of women had ever experienced forced sex with physical violence (Yoshihama & Sorenson, 1994).

Much less is known about the issue of coercive sex in developing countries, although the available evidence suggests that its occurrence may be common. Studies in Zimbabwe and Rwanda found that 25 and 33 percent of women, respectively, reported having ever been coerced into sex with their current partner (Watts, Keogh, Ndlovu, & Kwaramba, 1998; van der Straten et al., 1998). In a clinic-based study of women in Sierra Leone, one-half of women respondents reported having ever been forced to have sex with an intimate male partner (Coker & Richter, 1998). A study of adult women in Uganda found that 22 percent had been forced to have sex against their will (Okongo, 1991). A study of married Arab women residing in Israel reported that 30 percent of women reported having been coerced into sexual relations by their husband in the past year (Haj-Yahia & Edleson, 1994). In a study in Turkey, a majority of a sample of married women reported that they experienced sexual violence within marriage, with 16 percent reporting its occurrence as 'often' (Ilkkaracan & Women for Women's Human Rights, 1998). In a study of ever married women in Nicaragua, 22 percent reported having been ever sexually abused by a partner (Ellsberg, Pena, Herrera, Liljestrand, & Winkvist, 2000). In one of the only known studies of men, 29 percent of husbands in rural North India acknowledged having ever forced their wife to engage in sexual relations (Martin et al., 1999). In a somewhat contrasting finding, only between 6 and 12 percent of all women in a recent study in three South African provinces reported having ever been verbally or physically forced to have sex against their will (Jewkes, Penn-Kekana, Levin, Ratsaka, & Schrieber, 2001).

Even less is known about the determinants and associated risk factors for sexually coercive behavior in developing countries. Several of the studies cited above have investigated the correlates of coercive sex. The Rwandan study found coercive sex to be associated with both increasing duration of partnership and the partner's refusal to give the woman money (van der Straten et al., 1998). The Zimbabwean study found that women who were married and women who had their own income were both at increased risk of sexual coercion; the male partner having a girlfriend, as well as his use of alcohol or drugs, were also both significantly related to the risk of coercive sex (Watts et al., 1998). The Sierra Leone study found that Muslim women and women who had been circumcised were both at significantly greater risk of coercive sex with physical violence (Coker & Richter, 1998). The association between HIV status and sexual coercion has also been of interest. In the Rwandan study, positive HIV serostatus of the woman—but not positive HIV serostatus of the male partner—was associated with a significantly increased likelihood of sexual coercion (van der Straten et al., 1998). In the Sierra Leone study, in contrast, the perception by the female respondent of her significant exposure to the risk of AIDS was strongly related to the likelihood of reported coercive sex (Coker & Richter, 1998). Our review as a whole highlights the paucity of information which exists regarding both the prevalence of and associated risk factors for sexual coercion in developing countries.

Gender and sexual relations in Uganda

A quite extensive body of literature exists on gender and sexual relations in Uganda, and in East Africa more generally. It is evident from existing anthropological studies that sexuality and sexual pleasure occupy positive and important places within Ugandan society for both men and women, with studies documenting how sexual dissatisfaction can be sufficient grounds for marital dissolution or extramarital relationships on the part of not only men, but women as well (Ntozi & Lubega, 1991; Olowo-Freers & Barton, 1992). At the same time, it is evident that under the prevailing system of gender relations in Uganda, sexual relations may also have potentially significant and negative consequences, especially for women.

A central feature of Ugandan society is gender inequality, with women occupying subordinate roles in both economic activities and decision-making relative to men. Providing the underpinnings for such gender inequality is a patrilineal system in which the rights to land ownership, inheritance, and parentage extend only

to male family members (Obbo, 1980). The limited independent income and control over resources by women further exacerbate women's social and economic dependence upon men (Obbo, 1990; Ankrah, 1991; Wolff, Blanc, & Gage, 2000). Marriage practices also reinforce the subordinate position of women within the family, with residence by women with the husbands' family after marriage or union often curtailing links with their natal family, and limiting women's options for support should they seek to opt out of their current union (Orubuloye, Caldwell, & Caldwell, 1993). In addition, the widespread practice of bridewealth payments—the payment of money or gifts to the bride's family—while potentially status enhancing for women, also brings with it a sense of obligation to the male partner for having 'purchased' the bride (Blanc et al., 1996; Wolff et al. 2000).

There is increased recognition of how the subordinate status of women in Uganda and other Sub-Saharan African countries limits women's ability to negotiate sexual decisions and behavior, and correspondingly increases their vulnerability to the risk of HIV/AIDS (Ulin, 1992; Ankrah, 1991; Orubuloye et al., 1993; Wolff, et al. 2000). One way is through the condoning of multiple sexual partnerships for men. The most recent Demographic and Health Survey in Uganda found that one in three Ugandan women resided in polygamous unions (UBOS & Macro International, 2001). Equally significantly, societal norms in Uganda tend to tolerate and even condone men undertaking extramarital affairs and multiple partnerships, with women accorded little right to question such behavior (Obbo, 1980; Olowo-Freers & Barton, 1992; McGrath et al., 1993; Ntozi & Lubega, 1991). Women, in contrast, are expected to be faithful, with extramarital affairs considered sufficient grounds for beating or abandonment (McGrath et al., 1993; Olowo-Freers & Barton, 1992; Koenig et al., 2003), although in reality, there appears to be considerable acceptance of women having multiple partners as a response to economic pressure or sexual dissatisfaction (Standing & Kisekka, 1989; McGrath et al., 1993).

Gender inequality has also been recognized as having significant implications for decision-making regarding sex and women's risk of HIV/AIDS within marriage or union. One pathway relates to communication and decision-making in matters related to sex and contraception. Discussion or initiative concerning sex is viewed as largely the prerogative of men, with sex representing an uncomfortable or taboo topic for many women. In a recent Ugandan study, for example, almost 40 percent of women, but fewer than 10 percent of men, reported difficulty in discussing sexual issues and intentions with their partner (Blanc et al., 1996). A second pathway relates to women's limited influence and initiative in negotiating the use of condoms within partnerships. In the previously cited Ugandan study, three in four men and women considered it unacceptable for a married women to ask her partner to use a condom during sex (Blanc et al., 1996). Other research has documented women's general reticence to raise this issue with their partner (Balmer, Gikundi, Kanyotu, & Waithaka, 1995) and the equation of suggested condom use with mistrust of the male partner or women's own promiscuity (Standing & Kisekka, 1989; Obbo, 1993). Given this scenario, the finding of very low levels of discussion or ever use of condoms among Ugandan couples, in the face of significant risks of HIV/AIDS, is not surprising (Blanc et al., 1996; UBOS & Macro International, 2001).

A third pathway through which women's subordinate position may influence their risk of HIV/AIDS relates to women's ability to negotiate the timing and occurrence of sexual relations. Women in East Africa are socialized to believe that decisions concerning sex are largely a right of men, and that it is women's obligation to acquiesce to the partner's sexual demands (Obbo, 1990; Balmer et al., 1995). A closer examination of the evidence from Uganda, however, reveals a number of circumstances—ranging from menstruation to a drunken partner to a partner engaging in extramarital sex—which a majority of Ugandan women and men believe are justifiable grounds for a woman to refuse sex with her partner (Blanc et al., 1996; UBOS & Macro International, 2001). Although existing research suggests that the refusal of sex by the female partner does in fact occur, it appears to be largely temporary in nature, given women's legitimate fears of the potential negative repercussions of continued refusal, including divorce, abandonment, or the partner seeking other sexual partners (Blanc et al., 1996; Wolff et al., 2000). Among women who reject their partners' sexual advances, a frequent response by the male partner may be the use of threats or force to compel the female partner to have sex (Balmer et al., 1995). Orubuloye et al. (1993) argue that men's resortion to force and coercion to have sex is a much more common response in East and Southern Africa than in West Africa, where women have significantly more economic and marital autonomy. Several studies from East Africa describe examples of sexually coercive behavior (Balmer et al., 1995; Blanc et al., 1996), although there is no clear consensus as to whether this is a rare or frequent outcome (Wolff et al., 2000). Underlying many of the examples of wives' refusal of sex and subsequent coercion by the male partner may be an overriding concern among many women of contracting HIV/AIDS from a non-monogamous partner (Blanc et al., 1996). In the following sections, we explore in greater detail the issue of coercive sex among a representative sample of women in the Rakai area of Uganda, with a specific focus upon the association between coercive sex and perceived HIV/AIDS risk.

Setting and data

Data for the present study come from the Rakai Project, an on-going prospective cohort study in the Rakai District of southwestern Uganda. The Rakai Project was initiated in 1988 as a collaborative initiative between the Ugandan Ministry of Health, the Uganda Virus Research Institute, and researchers at Makarere University, Kampala, Columbia University, and The Johns Hopkins University. Rakai is a rural area of southwestern Uganda, bordering on Tanzania and Lake Victoria, with a 2000 population of over 425,000 people. This region was at the center of the HIV epidemic in Uganda; during the 1994–98 period, HIV prevalence was 16 percent and HIV incidence was 1.5/100 per year (Wawer et al., 1999).

As part of an intensive population-based HIV/STD epidemiological, behavioral, and intervention research program conducted in 56 rural communities in Rakai District, field studies employ repeat censuses and surveys of all consenting adults aged 15–59 years at 10-month intervals. Beginning in late 1994, the 56 communities were aggregated into 10 clusters, and were randomly allocated to an intervention arm receiving STD mass treatment and to a control arm (Wawer et al., 1999). All participants received health education, condom promotion, and were provided with HIV test results and counseling on request in accordance with Ugandan Ministry of Health policy. Data collection was based upon an open cohort study design, with all individuals of adult age (15–59 years), enumerated in the census, and present at the time of the survey eligible for inclusion. Refusal rates to participate in the survey were low, ranging between 6 and 7 percent for individual rounds. At the time of the 10-monthly home-based treatment visits, participants were administered a detailed socio-demographic, behavioral and health interview, which included an extensive battery of questions on recent and lifetime sexual behavior and practices. Respondents —both male and female—were interviewed separately in their homes in complete privacy. Interviews were carried out by highly trained and experienced interviewers of the same sex from the Rakai Project, and typically took 90–120 minutes. Respondents were also asked to provide blood and/or urine samples for the detection of HIV and STDs. No financial incentives were provided to respondents, although a bar of soap was provided to each as a gesture of appreciation for their participation in the study.

In Round 4 (1998–99), both male and female respondents were asked the following three detailed questions concerning sexual coercion with their current sexual partner:

Has [your current] partner ever forced you to have sex when you did not want to?
When you have/had sexual intercourse against your will, how frequently does/did this partner force you?
What form does/did this force take?

Our analysis population for this study consists of the 4279 women of reproductive age who resided in the 56 communities under surveillance at the time of the 1998–99 round (Round 4), and who were in an active sexual partnership. We initially examine the prevalence and nature of coercive sex as reported by women respondents. We subsequently explore the association between sexual coercion and selected demographic, socioeconomic, and risk behavior factors. The paper concludes with a discussion of the potential implications of our findings for current HIV prevention efforts in Uganda, and of priority areas for further research.

Results

The population under study is characterized by relatively low educational attainment, with only 19 percent of the sample of women having completed 8 or more years of education (Table 1). The study population is predominantly Christian (83 percent), with Muslims comprising a minority of the population (16 percent). Our data indicate that sexual activity begins early in this population, with a mean age at sexual initiation for women of 15.8 years; 81 per cent had become sexually active before 18 years of age. With respect to the most recent sexual partner, almost 70 percent of women reported this to be their husband; consensual partners and boyfriends/other were each reported by 15 percent of women. Alcohol was a frequent concomitant of sexual activity, with more than one-third of women, and almost 60 percent of their male partners, reported to have consumed alcohol on at least some occasions prior to sex. While 17 percent of female respondents believed that their primary partner had sexual relations with only themselves during the preceding year, 36 percent reported that their partner had sex with either another wife or consensual partner. Forty-seven percent of respondents indicated no knowledge about their male partners' other recent sexual partners. In terms of female respondents' perceptions of their male partner's HIV risks, 38 percent of respondents believed their male partner's risk of HIV exposure to be low (e.g., 'not at all' or 'unlikely'). Almost one in four (23 percent) believed their partner to be 'somewhat' or 'very likely' at risk; two in five female respondents indicated no knowledge of their male partner's likelihood of exposure to HIV risk.

It is of interest to compare the characteristics of our Rakai study population with rural Ugandan women as a whole, as described in the 2000–2001 national Demographic and Health Survey (UBOS & Macro International, 2001). This comparison reveals broad similarities, but also some differences, between the two samples. Women in the Rakai sample were less likely to be in polygamous unions (23.2 versus 31.6 percent), less likely

Table 1
Distribution of key independent variables: Rakai District, Uganda, 1998–99

Variables	%	(*N*)
Socio-demographic characteristics		
Woman's age		
<25	37.6	(1609)
25–34	37.0	(1582)
35+	25.4	(1088)
Woman's education		
None	11.1	(473)
1–7 years	69.4	(2970)
8–11 years	16.6	(713)
12+ years	2.8	(121)
Religion		
Muslim	16.4	(703)
Christian/other	83.6	(3576)
Partner's occupation		
Agriculture	34.6	(1481)
Other	35.4	(1515)
Business	30.0	(1283)
Partnership variables		
Relationship to partner		
Husband	69.1	(2954)
Consensual partner	14.8	(634)
Boyfriend/other	16.1	(688)
Length of primary sexual partnership		
<5 years	32.4	(1386)
5–10 years	29.8	(1277)
11+ years	37.8	(1616)
Risk behavior variables		
Age at first intercourse		
<15 years	27.2	(1100)
15–17 years	53.7	(2171)
18+ years	19.1	(773)
Alcohol consumption by woman		
Never	65.0	(2777)
Sometimes	33.3	(1424)
Often	1.7	(74)
Alcohol consumption by male partner		
Never	42.4	(1798)
Sometimes	46.1	(1957)
Often	11.5	(488)
Perceived HIV risk of male partner		
Not at all	6.5	(279)
Unlikely	31.5	(1346)
Somewhat	17.4	(745)
Very likely	5.7	(245)

Table 6 (*continued*)

Variables	%	(*N*)
Don't know	38.9	(1662)
Partner had sex with others <12 months		
No	17.0	(725)
Yes: other wife	27.8	(1191)
Yes: other consensual partner	7.8	(335)
Don't know	47.4	(2025)

N's differ slightly due to missing data.

to be uneducated (11.0 versus 24.7 percent), and more likely to have attended or completed secondary school (18.2 versus 12.4 percent) compared to the national DHS sample. Both the median age at first intercourse (15.5 versus 16.6 years) and median age at first birth (17.0 versus 17.6) were lower for the Rakai than DHS sample; current use of modern contraception was slightly higher for the Rakai sample (19.6 versus 14.7 percent). In terms of risk behavior, use of condoms at last intercourse was similarly low for women in both samples (6.9 percent in Rakai versus 6.4 percent in the DHS), as was the percentage of women reporting more than one recent sexual partner (<3 percent in both study populations).

Table 2 shows the prevalence of lifetime sexual coercion with the current partner reported by women in our study. One in four women (24 percent) report having ever been forced to have sex against their will by their current partner[1]. Among women reporting having ever experienced coercive sex with their partner, 10 percent indicated that such coercion had taken place on only one occasion, 16 percent indicated that this had occurred frequently or always, and almost three-fourths (73 percent) reported that this event had taken place 'occasionally'. The most common type of force used was pushing, pulling, or holding down the female partner (78 percent), followed by verbal threats by the male partner (21 percent), slapping (5 percent), and threatening gestures (4 percent) toward the female partner. Punching, beating or kicking or hitting the female partner with an object/threatening her with a weapon were relatively uncommon but did occur. Most women reported that only one form of force was used by the male partner to coerce sex, but in 10 percent of the cases, two or more forms of force were used.

Multivariate analysis

We next consider the results of logistic regression analysis for the socio-demographic, partnership, and

[1] An additional 17 women reported no sexual coercion with their current primary sexual partner, but coercion with a different current partner.

Table 2
Frequency of coercive sex with current partner as reported by women: Rakai District, Uganda, 1998–99

Variable	%	(*N*)
Ever forced to have sex		
Yes	24.2	(1030)
No	75.8	(3232)
Total	100.0	(4262)
Frequency of forced sex		
Once	10.3	(106)
Occasionally	73.4	(756)
Frequently	16.1	(166)
Always	0.2	(2)
Total	100.0	(1030)
Type of force reported[a]		
Pushing/pulling/holding down	78.2	(805)
Verbal threats	21.4	(221)
Slapping	5.4	(56)
Threatening gestures	4.3	(44)
Punching/kicking/beating	1.1	(11)
Hitting with object or weapon	0.2	(2)
Total	100.0	(1030)

[a] Due to multiple responses, percentages do not sum to 100%.

behavioral risk factors for coercive sex. Our sexual coercion outcome variable is dichotomous and defined as follows: 1 = ever coerced by current partner into having sex; 0 = never coerced by current partner into having sex. Coefficients are expressed as adjusted odds ratios relative to the omitted category, using the STATA statistical package. A number of risk factors emerge as significant predictors of coercive sex (Table 3). Women's age is shown to be a significant predictor, with younger women (<25 and 25–34 years) significantly more likely to report having experienced sexual coercion relative to reference group of older women (aged 35+ years). The relationship between female education and coercion is curvilinear, with women with primary schooling significantly more likely to report coercion relative to the reference group of women with 8+ years of schooling (OR = 1.35). Uneducated women, in contrast, experience risks of coercive sex similar to those for the more educated group. Women whose male partner worked in business/trading were somewhat more likely to report coercive sex relative to those who worked in agriculture. No association is evident between respondent's religion and the risk of sexual coercion.

The nature of the relationship to the male partner also emerges as an important risk factor for sexual coercion. Relative to the reference group of women whose primary partner was a boyfriend or other type of partner,[2] women whose primary partner was their husband were significantly more likely to have experienced sexual coercion (OR = 2.06). Women in consensual unions were also significantly more likely to report coercive sex in the current union (OR = 1.77). Neither the length of the current partnership nor the relative age difference between partners was significantly related to the risk of sexual coercion.

The final set of variables in the model relate to risk behavior by the woman respondent or her partner. The association between women's age at first intercourse and sexual coercion is also of interest. Women who became sexually active at very young ages (<15 years of age) were more likely to report having experienced sexual coercion with the current partner, relative to women who began sexual relations at 18 years or older (OR = 1.54). A systematic relationship between coercion and alcohol consumption by the male partner is also evident, with women whose male partners frequently consumed alcohol prior to sex almost three times more likely to report coercion (OR = 2.82), relative to women whose partners never consumed alcohol before sex. Women whose partners consumed alcohol 'sometimes' prior to sex were also significantly more likely to experience coercive sexual relations (OR = 1.57). Alcohol consumption by the woman prior to sex was not significantly associated with reported sexual coercion. We also examined the influence of the male partner's other sexual relationships in the past year (as reported by the woman respondent). Relative to the reference category—no known sexual partners other than the respondent—it is noteworthy that the likelihood of sexual coercion is significantly higher only for those women whose partners have had recent sexual relations with a consensual partner (OR = 1.52). Neither recent sex by the male partner with another wife nor no knowledge of their partner's other sexual relationships ('don't know') showed significant associations with coercive sex. Of particular interest are the findings concerning the association between women's perceptions of their partner's perceived risk of HIV and sexual coercion. Women who perceived their partner to be somewhat or very likely to be at risk of HIV were significantly more likely to report sexual coercion, relative to the reference category of not at all/ unlikely (OR = 2.32 and 2.89, respectively).

While we have thus far focused upon perceived risks of the male partner, the Rakai data also allow us to investigate the association between actual HIV status of both the woman respondent and her partner and sexual coercion, for a subsample of Rakai women. Our study population consists of 1809 women for whom HIV test results are available for Round 3, and who had an

[2] This category includes a former husband or boyfriend, relative, fellow student or employee, relative, or stranger.

Table 3
Logistic regression of risk factors for coercive sex: Rakai District, Uganda, 1998–99

Variable	OR	[95% CI]	*p*-value
Socio-demographic characteristics			
Woman's age			
<25 years	1.56	[1.19–2.05]	0.001
25–34 years	1.34	[1.08–1.66]	0.008
35+years (RC)	1.00		
Woman's education			
None	1.11	[0.81–1.52]	0.532
Primary	1.35	[1.09–1.67]	0.005
Secondary+(RC)	1.00		
Partner's occupation			
Business/ trading	1.26	[1.04–1.54]	0.021
Other	1.17	[0.97–1.42]	0.106
Agriculture (RC)	1.00		
Religion			
Muslim	1.13	[0.89–1.45]	0.306
Non-Muslim (RC)	1.00		
Partnership variables			
Relationship to partner			
Husband	2.06	[1.58–2.69]	0.000
Consensual union	1.77	[1.30–2.40]	0.000
Boyfriend/other (RC)	1.00		
Length of current partnership			
<5 yrs (RC)	1.00		
5–10 yrs	1.07	[0.87–1.32]	0.512
>10 yrs	1.27	[0.99–1.63]	0.058
Relative age of partners			
Partner <10 years older (RC)	1.00		
Partner with same age or younger	0.94	[0.69–1.26]	0.661
Partner 10+ years older	1.10	[0.88–1.36]	0.413
Age of partner unknown	0.79	[0.64–0.97]	0.022
Risk behavior variables			
Age at first intercourse			
<15 years	1.54	[1.20–1.96]	0.001
15–17 years	1.23	[0.98–1.53]	0.070
18+ (RC)	1.00		
Alcohol consumption: Woman			
Yes	1.08	[0.90–1.29]	0.431
No (RC)	1.00		
Alcohol consumption: Man			
Never (RC)	1.00		
Sometimes	1.57	[1.28–1.92]	0.000

Table 6 (*continued*)

Variable	OR	[95% CI]	*p*-value
Frequently	2.82	[2.15–3.70]	0.000
Partner: Sex with others <12 months			
Yes: Other wives	1.19	[0.92–1.55]	0.186
Yes: Consensual partner	1.52	[1.09–2.12]	0.013
Don't Know	0.98	[0.78–1.24]	0.866
No (RC)	1.00		
Male partner's risk of HIV			
Not at all/unlikely (RC)	1.00		
Don't know	1.19	[0.78–1.44]	0.080
Somewhat likely	2.32	[1.87–2.89]	0.000
Very likely	2.89	[2.09–3.99]	0.000
(*N*)	(3982)		
LR $\chi 2(df=23)$	336.14		
Prob > $\chi 2$	0.00		
Pseudo R^2	0.08		

Note: RC = Reference Category

identified male partner within the Rakai surveillance project who was also tested for HIV during Round 3. Table 4 shows the odds ratios when both the HIV status of the woman respondent and her male partner are included in the regression model, net of the effects of all risk factors shown in Table 3, with the exception of perceived HIV risk of the male partner. HIV status of the male partner fails to emerge as a statistically significant predictor of sexual coercion (OR = 1.03). Women who were HIV-positive faced lower risks of sexual coercion relative to HIV-negative women (OR = 0.67), although this association just fails to attain statistical significance ($p = 0.073$); this suggests that if a woman is HIV-infected, her partner may be less likely to impose sex upon her, presumably due to fears over HIV transmission. These results as a whole, however, provide support for the importance of perceptions of HIV risk, as opposed to actual HIV status, in conditioning behaviors such as coercive sex.

Perceptions of HIV risk and sexual coercion

A key finding to emerge from the logistic regression analysis is the strength of the association between a woman's perception of the male partner's risk behavior/ HIV status and sexual coercion. Women who perceive a higher likelihood that their partner has been exposed to HIV were significantly more likely to report having experienced sexually coercive relations; women in the highest perceived risk category were almost three times more likely to report coercion. In Table 5, we consider this in greater detail, by examining the relationship

Table 4
Logistic regression of the effects of female and male HIV status on coercive sex: Rakai, Uganda, 1998–99

Variable	OR	[95% CI]	*p*-value
Woman's HIV status (Round 3)	0.67	[0.44–1.04]	0.073
Male Partner's HIV status (Round 3)	1.03	[0.71–1.50]	0.868

Note: Effects are net of the effects of all the variables shown in Table 3, except for perceived HIV risk of male partner.

Table 5
Reasons for refusing sex with male partner by women's perception of their partner's HIV risk: Rakai District, Uganda, 1998–99

% Reporting as reason for refusing sex	Perceived HIV risk of male partner					
	Very likely	Somewhat likely	Unlikely	Not at all	Do not know	Total
Not in mood	54.1	62.6	70.7	73.0	62.9	64.2
Ill/tired	21.1	27.0	30.8	24.3	27.2	27.3
Fear of pregnancy	9.2	3.6	5.4	8.1	3.5	4.8
Angry/upset with partner	32.1	24.1	14.2	5.4	14.5	18.6
Fear that partner had STD/HIV	25.7	7.9	0.0	0.0	3.2	5.9
Belief that respondent had STD/HIV	0.0	0.7	0.4	0.0	0.3	0.4
Other reasons	7.3	6.1	7.3	5.4	8.7	7.4
Total *N*	(109)	(278)	(260)	(37)	(346)	(1030)

between women's perception of their partner's HIV status and the reasons they cite for refusing sex, among those reporting coercive sex with their current partner. The most commonly cited reason, 'not in mood', shows no association with perceived HIV risk of the partner. Similarly, neither feeling ill/tired or fear of pregnancy showed an association with perceived HIV risk of the partner. What stands out in Table 5 is the systematic association between perceived HIV risk and fear that the partner had an STD/HIV as the reason for the woman respondent refusing sex. Among women who perceived it 'very likely' that their partner was infected with HIV, 26 percent cited this as a reason for having refused sex; among women who perceived this risk as 'unlikely' or 'not at all', none cited fear of STD/HIV. Also of interest is the finding of a consistent relationship between perceived HIV risk of the partner and the respondent being angry or upset with him as the reason for refusing sex: 32 percent who perceive their partner to be at high risk of HIV cite this as a reason for refusal, compared to 5 percent who perceive their partner to be 'not at all' at risk. Separate analysis also found that 25 percent of women who viewed their partner's HIV risk as 'very likely' reported being frequently/always coerced into sex, compared with only 12 percent who viewed their partner as 'not at all' at risk (results not shown).

With the cross-sectional data from Round 4, it is not possible to establish the temporal nature of the association between coercive sex and perceived HIV risk of the partner: Whether the perception of HIV risk by the male partner leads to an increased likelihood of sexual coercion, or whether women in sexually coercive relationships are also characterized more generally by higher risk sexual relationships, including higher perceived HIV risk by their partners? To investigate this relationship further, we draw upon longitudinal data from the Rakai study population for the 1998–99 round (Round 4) as well as the preceding 1997–98 round (Round 3) of data collection. In both rounds, women were asked the same question concerning perceived HIV risk of their male partner.[3] By cross-classifying perceptions of risk in these two rounds to measure changes in perceived HIV risk to the partner over a 1 year period and reported sexual coercion in the latter round, it is possible to more fully explore the question of whether perceived HIV risk may be a significant risk factor for coercive sex. The analysis is restricted to only the subsample of 1816 women who were interviewed in both surveys, who reported themselves to have had only one sexual partner in both surveys, who had specific views on their partner's HIV risk in Round 3,[4] and who indicated no change in partner relationships between Rounds 3 and 4.

It is evident from Table 6 that changes in perceived partner HIV risk between these two rounds is strongly associated with the likelihood of reported sexual coercion in the latter round. For each response category in Round 3, the highest rates of sexual coercion are

[3] The exact phrasing of this question was: "How likely do you think it is that this partner has been exposed to HIV (virus which causes AIDS)?"

[4] Excluded are the substantial number of women with 'don't know' responses to these questions in Round 4.

Table 6
Sexual coercion by changes in women's perception of their partner's HIV risk: Rakai District, Uganda, 1997–98 and 1998–99

Perception that partner has been exposed to HIV		% reporting coercive sex	(*N*)
Round 3	*Round 4*		
Not at all	Increased risk	15.4	(156)
	Same risk	6.5	(46)
Unlikely	Increased risk	35.3	(153)
	Same risk	22.0	(369)
	Lower risk	14.1	(85)
Somewhat likely	Increased risk	46.3	(54)
	Same risk	46.0	(139)
	Lower risk	20.6	(141)
Very likely	Same risk	55.3	(38)
	Lower risk	40.5	(79)
Don't know	Very likely	36.4	(44)
	Somewhat likely	28.0	(189)
	Not at all/ unlikely	14.2	(323)
Total		26.6	(1816)

Note: Includes women reporting only one sexual partner and indicating no change in relationships between Rounds 3 and 4. Excludes respondents who responded 'don't know' at Round 4.

among women whose perceptions of their partner's HIV risk have increased during this period. As an example, among the substantial subgroup of women who indicated in Round 3 that their partner was 'unlikely' to have been exposed to HIV, rates of reported coercive sex were 35 percent for those whose perception of risk had increased in 1998, 22 percent for those whose perception had stayed the same (i.e., 'unlikely'), and only 14 percent for those whose perception of risk had decreased. A consistent relationship between changes in perceived HIV risk over this period and sexual coercion is observed for other Round 3 risk perception categories as well. Among the large number of women who responded 'don't know' to this question in Round 3, rates of reported coercive sex are more than double for the highest versus the lowest risk group in Round 4 ('very likely' versus 'not at all/unlikely'). These findings are consistent with the hypothesis that changes in women's perceptions of their partners' HIV status toward greater risk are directly associated with an increased likelihood of sexual coercion.

Discussion

Two potential limitations of our study should be noted. The first concerns the measurement of our principal outcome measure—sexual coercion. The highly culturally sensitive nature of issues related to sexuality, coupled with an absence of well-established cultural definitions as to what constitutes sexually coercive behavior in many settings, makes this an extremely challenging aspect of human behavior on which to undertake social science research. In settings where sex is viewed as the largely the prerogative of the male and the duty of the woman, the line between normal and coercive sexual relations may often be difficult for women (or men) to delineate (Heise et al., 1995). The substantial variation by gender in the frequency of reported coercive sex—only 8 percent of male respondents in Rakai reported having ever coerced a female partner into having sex in contrast to the 24 percent of female respondents reporting having experienced coercion—likely reflects the considerable ambiguity in the definition of such behavior. That such substantial variation in reporting by gender is not confined solely to settings such as rural Uganda is suggested by similar findings in the recent landmark study of sexual behavior in the United States (Laumann et al., 1994).[5] In the present study, we have chosen to rely upon women's responses on sexual coercion as our outcome measure, but recognize this as clearly a topic meriting further investigation. An additional limitation of our outcome measure of sexual coercion is that it is based upon responses to a single general dichotomous question—whether the respondent had ever been forced to have sex against her will. Had the survey included a series of specific questions about the specific verbal, emotional, and physical actions that accompanied sexual relations, levels of reported coercive sex are likely to have been somewhat higher than those reported in our study.

A second potential limitation of our study is that the Rakai Project has conducted extensive research, particularly on HIV/STD prevention studies, as well as providing health education, voluntary HIV testing and counseling, and condom promotion. Thus, the Rakai study population may be atypical with respect to awareness of HIV risks, relative to other rural Ugandan settings. This could have the effect of heightening a woman's perception of her partner's HIV risk status, increasing her reluctance to have sex (as shown in Table 4), and provoking coercive behavior from her male partner. Nevertheless, our results make it clear that a

[5] In the University of Chicago study, 3 percent of men reported having ever forced a woman to do something sexually, as opposed to 22 percent of women reporting having ever been forced sexually by a man.

woman's perception of her partner's HIV status is strongly associated with coercion. Moreover, changes in women's perceptions alter the likelihood of coercion, with changes in perception to lower HIV risk reducing coercion, and to higher HIV risk increasing coercion. Thus, the data are internally consistent with the hypothesis that partner risk perception is associated with refusal of sex and coercion.

These limitations notwithstanding, our study makes several new and important observations of relevance to a significant but little understood area of human behavior. With respect to risk factors for coercive sex, we find in our analysis that higher socioeconomic status—as reflected by female primary education and partner's business occupation—appears to be not significantly inversely related to sexual coercion. This finding may reflect the fact that our study population is relatively homogeneous in terms of low levels of educational attainment or socioeconomic status, and that lower levels of coercion may only be evident at higher socioeconomic threshold levels. Our study also finds a significant link between the earlier onset of sexual relations among women and a greater likelihood of sexual coercion. Further research is needed to ascertain whether this finding is explained by the fact that the early onset of sexual relations for many women is often the result of non-consensual forced sex, or whether women who become sexually active at young ages are more likely to be disempowered in subsequent relationships, and more vulnerable to a range of sexual risk behaviors, including coercive sex. Our study also highlights the prominent role of alcohol consumption in coercive sexual relations. Although alcohol consumption by the female partner was found to be unrelated to the risk of sexual coercion, a strong association emerged between alcohol consumption by the male partner and the likelihood of sexual coercion. The need for further in-depth research on the role of alcohol consumption in contributing to coercive sex, and possibly other forms of domestic violence, is clearly suggested by our findings.

A key finding to emerge from our study is the strength of the association between women's perceptions of their male partner's HIV status and the risk of coercive sex. Two contrasting explanations exist for this effect. The first is that this finding may reflect a deteriorating relationship between a woman and her male partner. Women in strong and positive relationships, presumably characterized by little coercive sex, may also be unlikely or unwilling to view their partners as being at significant risk of HIV. Women in failing relationships, in contrast, may be more likely as a whole to view their partner in a negative light, including an assessment that he may be at high risk of HIV; they may also be more likely to withdraw sexual access by such partners, increasing the likelihood of coercion by the male partner to obtain sex. In this view, both perceived HIV risk and sexual coercion—rather than causally linked—can be seen to be two indicators of a broader unraveling relationship.[6]

A second, and in our view, more plausible explanation for this finding is that coercive sex may be a direct result of women's perceived HIV risk for their male partner. Women who perceive their male partner to be at higher risk of HIV infection—as reflected either indirectly in terms of knowledge of recent sexual relations with other sexual partners or more directly through perceived HIV exposure—may be increasingly likely to resist the sexual advances of their partner. This might, in some cases, result in successful negotiation by women to avoid sex with their partners. However, in a significant number of cases, such resistance is likely to be met by verbal or physical force by the male partner to compel the female partner to accede to his sexual needs and demands (Balmer et al., 1995). Support for the interpretation of a direct link between perceived HIV risk and the withholding or withdrawal of sex by women comes from the recent study of sexual negotiation and decision-making in Uganda (Blanc et al., 1996). Whether the linkage between perceived HIV risk and sexual coercion is causal cannot be conclusively answered with existing data. What is needed is further in-depth research in Uganda which explores the issue of sexual coercion within partnerships among a small sample of both men and women, with a specific focus upon the underlying factors which led to coercive sex, including the role of women's potential fear of HIV/AIDS transmission.

We find actual HIV status, in contrast, not significantly related to the risk of sexual coercion. Although our findings with respect to male partner's HIV status are consistent with those from the previously cited study in Rwanda (van der Straten et al., 1998), unlike this study, we fail to find a positive relationship between women's HIV status and sexual coercion. A plausible explanation for these differential results lies in differences between studies in their definitions of measures of sexual coercion.[7]

In terms of policy implications, a clear finding to emerge from this study is that sexual violence represents a common reality for many, if not the majority, of Ugandan women. One in four women in our study report having experienced coercive sex within their current partnership. When considered together with

[6] R. Jewkes, personal communication.

[7] While our study used a direct measure of sexual coercion as the outcome variable, the Rwandan study actually considered two alternative measures—whether the partner insisted upon sexual intercourse when the woman did not want to and whether the partner gets mad when the woman refuses sex. We also note that the Rwandan study found a significant positive association between the woman's HIV status and only the former measure.

the findings that one in five women in Rakai report that that their first sexual experience was coerced, and that an additional 3 percent of Rakai women report having ever been raped outside of partnerships[8]—figures which must surely be viewed as minimum estimates—it is clear that sexual violence represents a pervasive problem in settings such as rural Uganda. The need for prevention programs which challenge not only sexual violence and coercion, but the underlying norms condoning such behavior, is clearly apparent.

The possible links between perceived HIV risk, sexual withdrawal, and coercive sex must be viewed at this point as suggestive, rather than conclusive. However, if corroborated by further research on risk perception, sexual coercion, and HIV acquisition, our findings may have potentially important implications for current HIV prevention programs in Uganda and elsewhere. Our results highlight the possible role of sexual coercion as an important mechanism for explaining the continuing heterosexual transmission of HIV/AIDS in much of Sub-Saharan Africa (Maman et al., 2000). Our results would also suggest that current prevention programs may be overlooking the potentially key dimension of sexual and physical violence within existing partnerships. This finding would also challenge the frequent assertion of passivity of African women in response to the AIDS epidemic, and suggest a much more complex picture: That women may be making significant attempts to protect themselves from the risks of HIV transmission, through trying to avoid sexual relations with partners perceived to be at high risk of HIV, a conclusion reached in at least one previous study in Uganda (McGrath et al., 1993). Such protective efforts, however, may often be negated by a response of coercion and force by male partners to compel sexual relations, with limited resultant change in overall risk reduction among women. This result highlights the importance within HIV prevention programs of empowering women to negotiate the terms of sex, including the right to refuse sex, and sensitizing communities to the potential adverse consequences of coercive sex. It also underscores the critical importance of making men and men's behavior the focal point of current HIV prevention efforts in settings such as rural Uganda.

Acknowledgements

The authors gratefully acknowledge the work of the Rakai Project Field Project Team with data collection and data management, and the helpful comments of Suzanne Maman, Rachel Jewkes, and the two anonymous reviewers.

[8] Koenig et al., unpublished data, 2002.

References

Ankrah, M. E. (1991). AIDS and the social side of health. *Social Science & Medicine*, *32*(9), 967–980.

Balmer, D. H., Gikundi, E., Kanyotu, M., & Waithaka, R. (1995). The negotiating strategies determining coitus in stable heterosexual relationships. *Health Transition Review*, *5*(1), 85–95.

Blanc, A. B., Wolff, B., Gage, A. J., Ezeh, A. C., Neema, S., & Ssekamatte-Ssebuliba, J. (1996). *Negotiating reproductive outcomes in Uganda*. Calverton, MD: Institute of Statistics and Applied Economics and Macro International.

Coker, A. L., & Richter, D. L. (1998). Violence against women in Sierra Leone: Frequency and correlates of intimate partner violence and forced sexual intercourse. *African Journal of Reproductive Health*, *2*(1), 61–72.

Ellsberg, M., Peña, R., Herrera, A., Liljestrand, J., & Winkvist, A. (2000). Candies in hell: Women's experiences of violence in Nicaragua. *Social Science & Medicine*, *51*(11), 1595–1610.

Garcia-Moreno, C., & Watts, C. (2000). Violence against women: Its importance for HIV/AIDS. *AIDS*, *14*(Suppl. 3), S253–S265.

Haj-Yahia, M., & Edleson, E.L. (1994). The first national survey of abuse and battering against Arab women in Israel: Preliminary results. Unpublished findings.

Heise, L., et al. (1994). *Violence against women: the hidden health burden*. World Bank Discussion Paper No. 255. Washington, DC: The World Bank.

Heise, L., Moore, K., & Toubia, N. (1995). *Sexual coercion and reproductive health: A focus on research*. New York: The Population Council.

Ilkkaracan, P., & Women for Women's Human Rights (1998). Exploring the context of women's sexuality in Eastern Turkey. *Reproductive Health Matters, 6*(12), 66–75.

Jewkes, R., Penn-Kekana, L., Levin, J., Ratsaka, M., & Schrieber, M. (2001). Prevalence of emotional, physical, and sexual abuse of women in three South African provinces. *South African Medical Journal*, *91*(5), 421–428.

Koenig, M. A., et al. (2003). Domestic violence in Rakai, Uganda: Evidence from a community-based survey. *Bulletin of The World Health Organization*, *81*(1), 53–60.

Laumann, E. O., Gagnon, J. H., Michael, R. T., & Michaels, S. (Eds.), (1994). Formative sexual experience. In *The social organization of sexuality* (pp. 321–347). Chicago: The University of Chicago Press.

Maman, S., et al. (2000). The intersections of HIV and violence: Directions for future research and interventions. *Social Science & Medicine*, *50*(4), 459–478.

Martin, S. L., et al. (1999). Sexual behaviors and reproductive health outcomes: Associations with wife abuse in India. *Journal of the American Medical Association*, *282*(20), 1967–1972.

McGrath, J. W., et al. (1993). Anthropology and AIDS: The cultural context of sexual risk behavior among urban Baganda women in Kampala, Uganda. *Social Science & Medicine*, *36*(4), 429–439.

Ntozi, J., & Lubega, M. (1991). Patterns of sexual behaviour and the spread of AIDS in Uganda. In T. Dyson (Ed.), *Sexual behaviour and networking: Anthropological*

and socio-cultural studies on the transmission of HIV (pp. 315–333). Liege: Derouaux-Ordina Publications.

Obbo, C. (1980). *African women: Their struggle for economic independence*. London: Zed Press.

Obbo, C. (1990). East African women, work, and the articulation of dominance: In I. Tinker (Ed.), *Persistent inequalities: Women and world development*. New York: Oxford University Press.

Okongo, T. (1991) As cited in L. Heise, K. Moore, & N. Toubia (Eds.), (1995) *Sexual coercion and reproductive health: A focus on research*. New York: The Population Council.

Olowo-Freers, B. P., & Barton, T. G. (1992). *In pursuit of fulfillment: Studies of cultural diversity and sexual behaviour in Uganda.* Kisubi, Uganda: Marianum Press.

Orubuloye, I. O., Caldwell, J. C., & Caldwell, P. (1993). African women's control over their sexuality in the era of AIDS. *Social Science & Medicine*, *37*(7), 859–872.

Standing, H., & Kisekka, M. N. (1989). *Sexual behaviour in sub-Saharan Africa: A review and annotated bibliography*. Overseas Development Administration.

Tjaden, P., & Thoennes, N. (1998). *Prevalence, incidence, and consequences of violence against women: Findings from the national violence against women survey*. NCJ Publication No. 172837, US Department of Justice, National Institute of Justice, Washington, DC.

Uganda Bureau of Statistics (UBOS) & ORC Macro, (2001). *Uganda demographic and health survey 2000–2001*. Calverton, MD: UBOS and ORC Macro.

Ulin, P. R. (1992). African women and AIDS: Negotiating behavioral change. *Social Science & Medicine*, *34*(1), 63–73.

van der Straten, A., et al. (1998). Sexual coercion, physical violence, and HIV infection among women in steady relationships in Kigali, Rwanda. *AIDS and Behavior*, *2*(1), 61–73.

Watts, C., Keogh, E., Ndlovu, M., & Kwaramba, R. (1998). Withholding of sex and forced sex: Dimensions of violence against Zimbabwean women. *Reproductive Health Matters*, *6*(12), 57–65.

Wawer, M. J., et al. (1999). Control of sexually transmitted diseases for AIDS prevention in Uganda: A randomized community trial. *The Lancet*, *353*, 525–535.

Wolff, B., Blanc, A. K., & Gage, A. J. (2000). Who decides? Women's status and negotiation of sex in Uganda. *Culture, Health & Sexuality*, *2*(3), 303–322.

World Health Organization. (1997). *WHO/WHD Violence against women: A priority health issue.* WHO/FRH/WHD/97.8. Geneva.

Yoshihama, M., & Sorenson, S. B. (1994). Physical, sexual, and emotional abuse by male intimates: Experiences of women in Japan. *Violence and Victims*, *9*(1), 63–77.