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Spousal Communication about HIV Prevention in Kenya

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ABSTRACT

High HIV rates among cohabiting couples in many African countries have led to greater programmatic emphasis on spousal communication in HIV prevention. This study examines how demographic and socioeconomic characteristics of cohabiting adults influence their dyadic communication about HIV. A central focus of this research is on how the position of women relative to their male partners influences spousal communication about HIV prevention. We analyze gaps in spousal age and education and female partner's participation in household decision-making as key factors influencing spousal communication about HIV, while controlling for sexual behaviors of both partners and other individual and contextual factors. Data are from the 2003 Kenya Demographic and Health Survey (KDHS) for 1,388 cohabiting couples (male partners age 15-54 and female partners age 15-49). Information regarding spousal communication was self-reported, assessing whether both, either, or neither partner ever discussed HIV prevention with the other. The analysis shows that higher levels of female partner's education and participation in household decision-making are positively associated with spousal communication about HIV prevention. With female partner's education and other factors controlled, couples with more educated male partners are more likely to discuss HIV prevention than couples where both partners have the same level of education. The findings have implications for HIV prevention programs to promote women's empowerment and to support men's participation in sexual health.

KEY WORDS

Spousal communication; AIDS; HIV; prevention; socioeconomic characteristics; Kenya.

INTRODUCTION

For more than two decades, Kenya has been experiencing a deadly, generalized HIV epidemic. HIV prevalence in 2007 was estimated to be 8.7% among adult women and 5.6% among adult men, with an estimated 1.4 million Kenyans living with HIV (Kenya Ministry of Health, 2008). Many new HIV infections occur among cohabiting heterosexual couples, who are seldom the primary targets of HIV prevention programs. To help protect such couples, HIV-prevention programs increasingly promote partner faithfulness and condom use as ways to avoid HIV infection among spousal partners (Cheluget et al., 2006; Davis, 1999; UNAIDS/WHO, 2007). An important behavioral component of such programs is the promotion of information and effective spousal communication regarding HIV prevention (Catania et al., 1989; Catania et al., 1994; Edgar et al., 1992; Freimuth et al., 1992; van der Straten et al., 1995; Troth & Peterson, 2000; Harvey et al., 2002; Hellinginger & Kohler, 2005).

In studying spousal communication, research on family planning has consistently found that spousal communication increases the likelihood of contraceptive use (Bawah, 2002; Dodoo, 1998; Fapohunda and Rutenberg, 1999; Lasee and Becker, 1997). This research suggests that spousal communication may also influence HIV-related behaviors, but empirical research on this subject remains limited. Among a handful of studies that have attempted to link spousal communication with HIV-related behaviors, a study from Uganda showed that spousal communication was positively associated with condom use (Gage and Ali, 2003). An ethnographic study in rural Kenya observed that spousal communication about HIV remains limited in rural couples, despite widespread dissemination HIV-related mass media messages (Muturi, 2005). Another study examined the effect of average age of a couple on the likelihood of spousal communication in Swiss couples but found no significant relationship (Bruhin, 2004).

Poor spousal communication may result from social and cultural norms that create an imbalanced relationship between the partners, one in which males are often in a more dominant position than their female counterparts. This imbalanced relationship is sometimes reflected in age and education gaps between partners, which can affect the extent of sexual negotiations and behaviors (Muturi, 2005; Bozon, 1991; Cain, 1993; Luke, 2005). The extent to which women participate in household decision-making also reflects their position relative to men and may affect spousal communication.

In this study, we examine how the position of women relative to men influences spousal communication about HIV prevention. More specifically, we analyze how spousal gaps in age and education and women's participation in household decision-making are associated with spousal communication about HIV prevention.

Theoretical Perspective

The Theory of Planned Behavior (Ajzen, 1991) provides a theoretical orientation for the present study. In the present context, this theory asserts that intention to communicate flows from a couple's attitudes toward communicating with one another openly, their perception of the subjective (cultural) norms associated with such communication, and their beliefs regarding their ability to engage in such communication. How these factors are influenced by the relative position of women in the relationship, are central to the dynamics of when, how, and to what degree spousal partners communicate with each other about HIV prevention.

Further, gender inequalities influence sexual behaviors and risk of sexually transmitted infections, including HIV (Harvey, et al., 2002; Mason, 1994). In Kenya, as in many other sub-Saharan countries, men generally have fewer sexual restrictions than women. In most Kenyan

communities, polygyny still is commonly accepted (Bauni & Jarabi, 2000; Mitsunaga et al., 2005; Muturi, 2005). Similarly, extramarital sexual relations and paid sexual encounters seldom become serious family issues for married men who serve as the principal wage earners in the household (Bauni & Jarabi, 2000; Mason, 1994; Muturi, 2005). In contrast, women tend to be economically dependent, passively involved in household decisions, and have only a limited voice regarding their own sexual and health needs (Helleringer & Kohler, 2005; Mason, 1994; van der Straten et al., 1995). Such an imbalanced gender relationship makes women vulnerable to HIV infection, and other sexual health problems.

METHODS

Data source and sample

Data for our analysis were drawn from the 2003 Kenya Demographic and Health Survey (KDHS) (CBS et al., 2004). The study was based on a sample of 400 neighborhoods (defined as primary sampling units) selected from the 1999 Population and Housing Census in Kenya. Urban residents were over-sampled relative to their proportion in the national population. After adjusting for over-sampling, the KDHS sample is representative of the Kenyan population as a whole. From the 400 neighborhoods a total of 9,865 households were randomly sampled, of which 8,889 were occupied, and of these 8,561 were successfully interviewed (96% household response rate). For each household, all women of reproductive age (15-49) were eligible for interview. In every other household, data were also collected from all men age 15-54. This sampling procedure yielded 8,717 women and 4,183 men, with response rates of 94% for women and 86% for men (CBS et al., 2004).

This study is based on a total of 1,430 cohabiting couples from 381 neighborhoods that were included in the KDHS. Due to missing values on several variables of interest, 42 couples were excluded from the analysis, leaving a total of 1,388 couples. Analyses were appropriately weighted and the standard errors of the coefficients were adjusted for the complex sample design (Lee and Verma, 1997) using STATA 9.0 (Stata Corporation, 2005).

Variable description and measures

Spousal communication about HIV prevention was the outcome of interest for our analysis, and it was treated as a categorical variable. The KDHS asked all male and female respondents “Have you ever talked with (your husband or the man you are living with/your wife or the woman you

are living with) about ways to prevent getting the virus that causes AIDS?” Response options were yes and no. We grouped the responses from the partners into three categories: (1) mutual communication, when both partners responded yes to the question, (2) one-sided communication, when one partner responded yes but the other responded no, and (3) no communication, when both partners responded no.

Age gap was calculated by subtracting the female partner’s age (in single years) from the male partner’s age, a positive value indicating an older male partner and a negative value indicating a younger male partner. From these data, four different “age gap” groups were created: (1) male partner younger or same age as the female partner, (2) male partner older by 1-5 years, (3) male partner older by 6-9 years, and (4) male partner older by 10 or more years. Using a similar strategy, education gap was calculated by subtracting years of schooling of the female partners from years of schooling of the male partners. The education gap data were grouped into the following four categories: (1) male partner with lower level of education than the female partner, (2) male partner with same level of education as the female partner, (3) male partner with 1-3 years of education higher than the female partner, and (4) male partner with 4 or more years of education higher than the female partner.

We also included two measures related to social norms regarding female participation in household decision-making and male involvement in risky sexual behaviors. The extent to which female partners participated in household decision-making was indexed by their level of participation regarding each of the following four activities: (1) own health care, (2) large household purchases, (3) daily household purchases, and (4) visits to family or relatives. We grouped responses into four categories of decision-making participation based on whether the female partner reported involvement in any one, any two, any three, or all four decisions. Male

involvement in risky sexual behaviors was indexed by self-reports of non-spousal sex (no or yes) and paid sex (ever or never) during the past year.

Other independent variables and possible confounders include age of the female partner, education level of the female partner, race/ethnicity (Kikuyu, Kalenjin, Kamba, Luhya, Luo, other with same ethnic background, or mixed ethnic background), current union status (married with certificate, married by custom, or living together in union), type of union (polygyny or monogamy), duration in union, household wealth status (quintiles), place of residence (urban or rural), and exposure to the mass media (viewing television, listening to the radio, or reading a newspaper or magazine at least once a week). We grouped couples into three media exposure categories: (1) both partners exposed to at least one type of mass media at least once a week, (2) only one partner exposed, and (3) neither partner exposed.

Analysis

We first examined frequency distributions of spousal characteristics of cohabiting couples in the KDHS sample. Next, we examined bivariate associations of categorical variables of gaps in spousal age and education with HIV-prevention communication. Lastly, we employed multinomial logistic regressions to assess how the relative likelihood of mutual and one-sided spousal communication is influenced by gaps in spousal age and education, female partner's participation in household decision-making, and other factors using progressive adjustment.

We began with the model that included only age and education and gaps in age and education between partners as the main explanatory variables. Then we added female participation in household decision-making, spousal sexual activity, mass media exposure, and union characteristics to test for possible confounding of the associations between age and

education gaps with spousal communication. Results are presented in the form of adjusted relative risk ratios (RRRs) with 95% confidence intervals (CIs).

RESULTS

Couple characteristics

Table 1 shows the percentage distribution of couples by selected socioeconomic characteristics. In a large majority (90%) of cohabiting couples in the KDHS sample, male partners were older than the female partners. In 52% of couples male partners were more educated than their female partners, while in 26% of couples female partners were more educated than the male partners. Only one in every four couples had a female partner with some secondary or higher education. In only 24% of the couples did the female partners participate in all four types of household decisions, while in 20% of couples the female partners did not participate in any of the four household decisions. In about 10% of couples the male partners reported having had sex with a non-spousal partner in the last 12 months, and in 17% of couples the male partners reported paying for sex at least once.

The radio was the most routinely used type of mass media; in 76% of couples both partners listened to the radio at least once a week. A much smaller proportion watched television at least once a week (22%) or read newspapers or magazines at least once a week (15%). In over 90% of couples both partners shared the same ethnicity, and 89% of couples were monogamous. Ninety-one percent of cohabiting couples were formally married (by custom or with certificate), while the remaining 9% were in union without a formal marriage. Three-quarters of couples resided in rural areas.

Table 1. Percentage distribution of couples by selected characteristics, 2003 KDHS (N = 1,388 cohabiting couples)

Characteristic	Percent (N=1,388)
Age gap (compared to female partner)	
Younger/same age*	10.32
1-4 yrs. older	26.76
5-9 yrs. older	42.56
10+ yrs. older	20.36
Education gap (compared to female partner)	
Same	21.75
Males lower	26.13
Males higher by 1-3 yrs.	29.23
Males higher by 4+ yrs.	22.89
Age of female partner	
15-24	28.66
25-34	42.82
35+	28.52
Female partner's education	
No education	13.02
Primary incomplete	34.19
Primary completed	27.00
Incomplete secondary and above	25.79
Number of decision-making activities participated by female partner	
None	19.67
Any one activity	19.55
Any two activities	20.62
Any three activities	16.47
Any four activities	23.70
Sexual activity of male partner	
Extramarital sex for past 12 months	10.23
Ever paid for sex	17.47
Mass media exposure	
Newspaper or magazine	
None to both partners	50.67
Exposed to one partner	34.00
Exposed to both	15.33
Radio	
None to both partners	6.94
Exposed to one partner	16.78
Exposed to both	76.29
TV	
None to both partners	57.71
Exposed to one partner	20.01
Exposed to both	22.27
Ethnicity/race	
Both Kikuyu	20.99
Both Kalenjin	11.58
Both Kamba	9.74
Both Luhya	12.63

Continued...

Table 1. (Continued)

Characteristic	Percent (N=1,388)
Both Luo	11.04
Both some other ethnicity	24.75
Mixed-ethnicity spouses	9.27
Current union status	
Married with certificate	19.23
Married by custom	72.20
Living together	8.56
Type of union	
Polygamy	10.99
Monogamy	89.01
Duration of union formed	
Union formed only once	
0-4 yrs.	27.05
5-9 yrs.	21.97
10-19 yrs.	29.51
20+ yrs.	15.05
Twice+	6.42
Household wealth quintile	
Lowest	18.13
Second	18.25
Middle	19.34
Fourth	20.94
Highest	23.32
Residence	
Urban	22.52
Rural	77.48

*Includes male partners older by less than one year. *Note:* Percentage may not add up to 100 due to rounding. Percentages are weighted; Ns are unweighted.

Spousal communication about HIV prevention

Overall, 60% of couples reported mutual communication regarding HIV prevention, 31% reported one-sided communication initiated either by the male or the female partner, and 8% of couples indicated no spousal communication about HIV prevention. Table 2 presents the association of age and education gaps with spousal communication about HIV prevention.

Mutual HIV communication was more common in couples with female partners ages 25-34 (66% of couples) than in couples with younger or older female partners (55-57% of couples). Couples with female partners age 35 or older were more likely to report no spousal

communication (12%) than couples with younger female partners (7-8%). There was no clear relationship between mutual communication and the age gap between partners in couples where the female partners were younger than age 35. Within each age gap group, however, the proportion reporting mutual HIV communication was highest among couples where the male partners were either the same age or younger than the female partners. The proportion reporting mutual HIV communication was least common among couples where the male partners were 10 or more years older than their female partners.

With respect to the women's level of education and education gap, mutual spousal communication about HIV prevention was most common among couples with female partners with secondary or higher education (76%) and least common among couples with female partners with no education (30%). Within each education group, the proportion of couples having mutual HIV communication increased as the education gap widened, but this pattern was not clear among couples with female partners with primary or higher education. The mixed result was repeated for the relationship between the education gap and no communication related to HIV prevention across the various categories of female education. While the proportion with no communication increased as the education gap widened among couples with female partners with secondary or higher education, it decreased as the education gap widened among couples with female partners with no education.

Table 2. Percentage distribution of couples, and percent couples where spouses discussed HIV prevention, by female partner's age and education and by gaps in spousal age and education, 2003 KDHS (N = 1,388 cohabiting couples)

Characteristic	All (N=1,388)	Spousal HIV prevention communication [†]		
		Mutual (N=806)	One-sided (N=427)	None (N=155)
Total	100.0	60.29	31.21	8.50
<i>Age and age gap</i>				
Female partner aged 15-24	(N=396)	(N=204)	(N=149)	(N=43)
Male partner younger/same age*	6.98	62.16	18.12	19.72
Male partner older by 1-4 yrs.	22.02	51.58	43.88	4.54
Male partner older by 5-9 yrs.	51.92	55.66	38.72	5.62
Male partner older by ≥ 10 yrs.	19.08	52.62	35.06	12.32
Total	100.0	54.63	37.72	7.65
Female partner aged 25-34	(N=598)	(N=377)	(N=163)	(N=58)
Male partner younger/same age	9.73	70.24	21.40	8.36
Male partner older by 1-4 yrs.	26.67	69.87	26.35	3.78
Male partner older by 5-9 yrs.	36.70	67.84	26.37	5.79
Male partner older by ≥ 10 yrs.	26.90	59.58	29.83	10.59
Total	100.0	66.39	26.81	6.80
Female partner aged 35+	(N=394)	(N=225)	(N=115)	(N=54)
Male partner younger/same age	14.57	69.23	26.29	4.49
Male partner older by 1-4 yrs.	31.64	59.49	26.51	14.01
Male partner older by 5-9 yrs.	41.97	55.41	33.21	11.38
Male partner older by 10+ yrs.	11.82	39.22	43.38	17.40
Total	100.0	56.80	31.28	11.92
<i>Education and education gap</i>				
Female partner with no education	(N=221)	(N=54)	(N=73)	(N=94)
Male partner with same level of education	44.00	15.63	33.72	50.65
Male partner with higher level of education				
By 1-3 yrs.	11.83	33.74	38.99	27.27
By 4+ yrs.	44.17	43.77	42.86	13.38
Total	100.0	30.20	38.38	31.42
Female partner with incomplete primary education	(N=438)	(N=239)	(N=170)	(N=29)
Male partner with lower level of education	23.28	46.91	46.53	6.55
Male partner with same level of education	13.62	56.66	33.74	9.61
Male partner with higher level of education				
By 1-3 yrs.	40.34	57.55	39.16	3.29
By 4+ yrs.	22.74	62.33	30.35	7.32
Total	100.0	56.04	38.14	5.83
Female partner with completed primary education	(N=350)	(N=227)	(N=103)	(N=20)
Male partner with lower level of education	30.54	60.62	33.27	6.11
Male partner with same level of education	23.15	56.51	30.39	13.10
Male partner with higher level of education				
By 1-3 yrs.	24.23	71.76	26.66	1.57
By 4+ yrs.	22.09	74.18	25.82	0.00
Total	100.0	65.36	29.36	5.28
Female partner with secondary education and above	(N=379)	(N=286)	(N=81)	(N=12)
Male partner with lower level of education	38.47	75.77	23.59	0.64
Male partner with same level of education	19.81	73.50	21.63	4.86
Male partner with higher level of education				
By 1-3 yrs.	28.53	75.50	18.23	6.27
By 4+ yrs.	13.19	79.94	13.64	6.42
Total	100.0	75.79	20.36	3.85

[†]Spousal HIV prevention communication variable takes the responses of both partners into consideration. *Includes male partners older by less than one year.

Note: Percentage may not add up to 100 due to rounding. Percentages are weighted; Ns are unweighted.

Multivariate analyses

Table 3 shows the results of two multinomial logistic regression models by type of spousal communication about HIV prevention. Model 1 included only variables measuring age and education gaps, while adjusting for the current age and education level of female partners. This model assessed the influence of all four categories of the explanatory gap variables on the odds of mutual and one-sided communication compared with no communication. While the association of age gap with spousal communication was non-significant in multivariate analyses, the association of education gap was significant. Spouses with different levels of education were more likely than spouses with the same level of education to discuss HIV prevention, whether mutually or one-sidedly. The likelihood of mutually discussing HIV prevention increased substantially as women's education level increased, but not the likelihood of one-sided discussion.

In Model 2 we examined the relationship of gaps in spousal age and education with spousal communication about HIV prevention, while including indicators of women's participation in household decision-making, risky sexual behaviors, mass-media exposure, and other background factors. After these adjustments, mutual spousal communication increased with increasing levels of the female partner's education and with increasing gap in education. The relationship with one-sided communication was unclear.

Couples where the female partners participated in all four major household decisions were more likely to have mutual spousal communication than couples where the female partners did not participate in any of the four major household decisions. Couples where the male partners had non-spousal sex in the past year were less likely to have any type of spousal communication about HIV prevention than couples where the male partners did not have non-

spousal sex. However, couples where the male partners engaged in paid sex were more likely to have spousal communication about HIV prevention than couples where the male partners did not have paid sex.

Listening to the radio and reading newspapers or magazines at least once a week were significantly positively associated with spousal communication about HIV prevention. Luhya or mixed ethnicity couples were more likely than Kikuyu couples to have mutual communication or one-sided communication. In addition, couples married by custom and couples living together were more likely than couples married with certificate to have mutual communication or one-sided communication. The likelihood of having spousal communication increased substantially with household wealth. No significant difference was found between the type of union, duration in union, and place of residence on either mutual or one-sided spousal communication about HIV prevention.

Table 3. Factors associated with the likelihood of mutual or one-sided spousal communication about HIV prevention among couples, 2003 KDHS ($N = 1,388$ cohabiting couples)

Explanatory Variable	Model 1		Model 2	
	Mutual RRR (95% CI)	One-sided RRR (95% CI)	Mutual RRR (95% CI)	One-sided RRR (95% CI)
Age gap (compared to female partner) (ref=Younger/same age*)				
1-4 yrs. older	0.87 (0.36-2.14)	1.36 (0.55-3.33)	1.00 (0.41-2.46)	1.81 (0.70-4.67)
5-9 yrs. older	0.97 (0.38-2.49)	1.53 (0.62-3.80)	1.05 (0.41-2.69)	1.75 (0.69-4.44)
10+ yrs. older	0.69 (0.28-1.71)	1.15 (0.45-2.89)	0.80 (0.33-1.98)	1.35 (0.51-3.55)
Age of female partner (ref=35+ yrs. old)				
15-24	1.13 (0.65-1.98)	1.29 (0.71-2.33)	0.58 (0.21-1.57)	0.64 (0.22-1.82)
25-34	1.80 (1.06-3.07)‡	1.29 (0.74-2.22)	1.48 (0.77-2.86)	1.12 (0.57-2.19)
Education gap (compared to female partner) (ref=Same education level)				
Males lower	2.55 (1.21-5.40)‡	3.09 (1.43-6.66)‡	2.25 (0.99-5.12)	2.65 (1.15-6.08)‡
Males higher by 1-3 yrs.	3.44 (1.77-6.71)‡	2.90 (1.47-5.75)‡	2.30 (1.06-4.99)‡	2.00 (0.92-4.33)
Males higher by 4+ yrs.	5.23 (2.77-9.84)‡	3.31 (1.74-6.29)‡	2.33 (1.12-4.85)‡	1.64 (0.78-3.46)
Female partner's education (ref=None education)				
Primary incomplete	7.46 (3.40-16.37)‡	3.55 (1.68-7.46)‡	3.48 (1.46-8.29)‡	1.91 (0.84-4.37)
Primary completed	11.89 (5.60-25.25)‡	3.59 (1.63-7.89)‡	4.36 (1.77-10.76)‡	1.70 (0.66-4.38)
Secondary incomplete and above	18.13 (7.39-44.43)‡	3.29 (1.31-8.24)‡	5.01 (1.60-15.64)‡	1.28 (0.39-4.26)
Number of decision-making participated by female partner (ref=None)				
Any one			1.34 (0.65-2.77)	1.12 (0.56-2.22)
Any two			2.01 (0.92-4.37)	1.50 (0.69-3.29)
Any three			1.25 (0.57-2.74)	0.94 (0.42-2.12)
All four			2.19 (1.03-4.69)‡	1.24 (0.58-2.68)
Sexual activity of male partner				
Extramarital sex for past 12 months (ref=none of both)				
			0.47 (0.19-1.18)	0.57 (0.24-1.37)
Ever paid for sex (ref=no)				
			2.48 (1.06-5.82)‡	2.39 (1.06-5.39)‡
Mass media exposure				
Newspaper or magazine (ref=none)				
Exposed to one partner			2.05 (1.004-4.18)‡	1.22 (0.57-2.61)
Exposed to both partners			1.66 (0.61-4.48)	1.11 (0.41-3.06)
Radio (ref=none)				
Exposed to one partner			2.38 (1.10-5.16)‡	2.14 (1.05-4.36)‡
Exposed to both partners			4.38 (1.56-12.29)‡	2.38 (0.92-6.19)
TV (ref=none)				
Exposed to one partner			0.74 (0.33-1.65)	1.10 (0.48-2.49)
Exposed to both partners			1.15 (0.40-3.35)	1.27 (0.43-3.81)

Continued...

Table 3. (Continued)

Explanatory Variable	Model 1		Model 2	
	Mutual RRR (95% CI)	One-sided RRR (95% CI)	Mutual RRR (95% CI)	One-sided RRR (95% CI)
Ethnicity/race (ref=Same Kikuyu spouse)				
Both Kalenjin			3.23 (1.10-9.45)‡	2.19 (0.73-6.59)
Both Kamba			4.98 (1.39-17.85)‡	3.53 (0.93-13.45)
Both Luhya			8.45 (1.78-40.03)‡	7.97 (1.82-34.94)‡
Both Luo			0.98 (0.42-2.25)	1.36 (0.56-3.34)
Same other ethnicity			1.89 (0.86-4.17)	1.21 (0.51-2.86)
Mixed-ethnicity spouse			4.52 (1.46-13.99)‡	4.99 (1.51-16.51)‡
Current union status (ref=Married with certificate)				
Married by custom			2.16 (1.19-3.91)‡	2.28 (1.28-4.07)‡
Living together			5.76 (1.58-20.92)‡	7.74 (2.10-28.53)‡
Type of union (ref=Polygyny)				
Monogamy			0.76 (0.38-1.51)	1.26 (0.63-2.53)
Duration of union formed (ref=Only once: 0-4 yrs.)				
Only once: 5-9 yrs.			1.34 (0.62-2.87)	1.07 (0.49-2.32)
Only once: 10-19 yrs.			0.56 (0.22-1.47)	0.56 (0.21-1.49)
Only once: 20+ yrs.			0.40 (0.12-1.35)	0.46 (0.13-1.56)
Twice+			0.81 (0.21-3.11)	0.83 (0.20-3.46)
Household wealth quintile (ref=Lowest)				
Second			2.91 (1.29-6.55)‡	2.38 (1.10-5.17)‡
Middle			2.34 (1.10-4.96)‡	1.75 (0.85-3.61)
Fourth			5.49 (2.08-14.51)‡	5.65 (2.15-14.81)‡
Highest			2.91 (0.83-10.23)	3.59 (0.94-13.67)
Residence (ref=Urban)				
Rural			1.99 (0.80-4.91)	2.39 (0.88-6.45)
Model Statistics				
log pseudo-likelihood		-1107.50		-1025.22
Wald χ^2		174.85		401.99
Df		22		82
p value		0.0000		0.0000

‡ $p \leq 0.05$

‡ Includes male partners older by less than one year.

Note: Percentages are weighted; Ns are unweighted.

Abbreviations: CI, confidence interval; RRR, relative risk ratio.

DISCUSSION

Our study finds that higher levels of women's education and participation in household decision-making are positively associated with spousal communication about HIV prevention. This finding is consistent with empirical evidence in the family planning literature that higher levels of women's education and participation in decision-making alleviate gender imbalances in marital relationships, thereby increasing mutual communication between the spouses (Mason, 1994; Jejeebhoy, 1995). However, contrary to the expectation, we find that education gap between partners is associated with significantly increased likelihood of mutual spousal communication about HIV prevention. Specifically, with female partner's education and other factors controlled, Kenyan couples with male partners who are more educated than their female partners were more than twice as likely to discuss HIV prevention mutually as couples where both partners have the same level of education.

Male partners with higher education levels than their female partners appear to play a more active role in initiating spousal discussion about HIV. Our analysis shows that 90% of male partners having more education than their female partners report discussing HIV prevention with their female partners, compared with 68% of female partners with less education than their male partners, suggesting that men with more education may be more likely to bring up the topic of HIV prevention with their female partners.

Our findings should be interpreted with caution, however, due to several measurement constraints. First, there is the likelihood of recall error. In the KDHS spousal communication is based on self-reporting, and spouses are asked to recall HIV-related communication from the time they have been in the union. Second, we were unable to directly measure or control for the effects of some of the important couple characteristics, such as relative earning levels and

satisfaction with the relationship, although we controlled for several other socioeconomic factors which may partly account for such missing characteristics. Third, the survey provided no information on the content and circumstances of the spousal communications about HIV prevention—for example, whether or not the prevention issue was related to a couple’s particular sexual practices, or how often they discussed HIV. In Kenya, as in other sub-Saharan countries, issues related to sex are often a taboo, particularly for women, and prevalence of condom use is low among spousal partners (Bauni & Jarabi, 2000; Helleringer & Kohler, 2005; Muturi, 2005). The KDHS did not collect information on whether condom use was discussed during the HIV-related discussion.

Despite these limitations, our findings of the positive effects of women’s education and participation in household decision-making on spousal communication about HIV prevention suggest that women’s empowerment can enhance spousal communication about sexual and reproductive health. Our finding of a positive association between education gap and spousal communication about HIV highlights the importance of HIV prevention programs and policies to be gender sensitive, addressing the needs of both partners in a spousal relationship. Programs can help to ensure that married men and women have accurate information about HIV and are able to communicate constructively with their spouses, while continuing efforts to strengthen women’s status and support men’s participation in sexual health.

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