

Attitudes Toward Intimate Partner Violence and Associations With Condom Use Among Men in Haiti: An Analysis of the Nationally Representative Demographic Health Survey

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Abstract

Although men have substantial decision-making power regarding condom use, the majority of HIV knowledge and prevention studies in the general Haitian population have been conducted among youth and women. We investigated attitudes toward intimate partner violence, knowledge of, and use of condoms among 9493 men in Haiti using data from the 2012 nationally representative Demographic and Health Survey. Only 36% of HIV-negative and 44% of HIV-positive men reported using a condom the last time they had had sex. Logistic regression revealed that believing it was justified for a man to hit or beat his wife if she refuses to have sex with him was associated with a lower odds of condom use. The odds of using a condom during last sex was higher among men who reported knowing condoms can prevent

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HIV and who had been tested for HIV. Given the low rate of condom use among men in Haiti, these findings suggest that interventions promoting HIV knowledge, HIV testing, and gender-violence prevention among men may also increase condom use.

Keywords

intimate partner violence, HIV, condom use, Men, Haiti

Introduction

Despite the efforts to prevent the spread of HIV in the past two decades, an estimated 35.3 million people were living with HIV in 2012 with 2.3 million new infections occurring in the same year (The Joint United Nations Programme on HIV and AIDS [UNAIDS], 2013). Following sub-Saharan Africa, the Caribbean has the second highest adult HIV prevalence rate (1.0% [0.9%-1.1%]) and approximately 120,000 (2.2%) of people infected in the region are in Haiti (UNAIDS, 2010). Although sexual transmission of HIV has decreased in many countries, including Haiti, recent surveys in sub-Saharan Africa suggest there has been a decline in condom use and an increase in sexual partners (Gaillard et al., 2006). To progress toward the 2011 United Nations Political Declaration on HIV/AIDS and the Millennium Development Goal (MDG) 6's objective of halting the spread of HIV/AIDS by 2015, there remains substantial work to be done in promoting condom use, especially among men in developing countries where there are generalized HIV epidemics (UNAIDS, 2013).

Intimate partner violence (IPV) among women in Haiti has been reported to be associated with a history of violence exposure in women's families of origin, partner's jealousy, partner's need for control, partner's history of drunkenness, and female-dominated financial decision-making (Gage, 2005, Gage & Hutchinson, 2006). Although the relationship between IPV and condom use among men has been well documented (Dunkle et al., 2006; Frye et al., 2011; Raj et al., 2006; Santana, Raj, Decker, La Marche, & Silverman, 2006; Townsend et al., 2011), a review of the literature revealed only one study that has focused on this topic in Haiti. Couture, Soto, Akom, Joseph, and Zunzunegui (2010b) reported that men in Haiti with a history of perpetrating emotional and physical IPV used condoms inconsistently with intimate and occasional partners and female sexual workers (Couture et al., 2010b). Studies conducted in the United States and South Africa have reported similar findings (Frye et al., 2011; Raj et al., 2006). For example, in a study conducted among sexually active men who attended an urban health clinic in the United States, Raj et al. (2006) found that men who reported IPV

perpetration were more likely to engage in unprotected intercourse, and to force sexual intercourse without a condom (Raj et al., 2006). In a more recent study in which condom use self-efficacy and relationship control were adjusted for, the authors also found that men who perpetrated IPV were significantly less likely to report using condoms consistently (Frye et al., 2011).

Types of IPV that women experience include physical, emotional, and verbal abuse and IPV can lead to sexually transmitted infections like HIV (Maman, Campbell, Sweat, & Gielen, 2000, Maman et al., 2002). For example, in a longitudinal study that examined risk of incident HIV infection among women in relation to IPV and gender power equity, it was reported that 51 of 325 women with low relationship power equity at baseline acquired HIV (8.5 per 100 person-years) compared with 73 of 704 women with medium or high relationship power equity (5.5 per 100 person-years) (Jewkes, Dunkle, Nduna, & Shai, 2010). In addition, 45 of 253 women who reported more than one episode of IPV at baseline acquired HIV (9.6 per 100 person-years) compared with 83 of 846 who reported one or no episodes (5.2 per 100 person-years; Jewkes et al., 2010). Among the underlying factors placing women at risk of HIV, women are afraid to request to use condoms in fear of IPV (Karamagi, Tumwine, Tylleskar, & Heggenhougen, 2006). Aside from abstinence and monogamy, consistent and proper use of condoms is one of the most effective ways to prevent new HIV infections (Conserve et al., 2012).

Given the importance of condom use in preventing new HIV infections and the paucity of research on IPV and condom use among men in Haiti, it is important to examine how men's attitudes toward IPV influence condom use in Haiti. To our knowledge, the only study focusing on men's perceptions and practices of condom use in Haiti was conducted in 1986-1987 and found that men rarely used condoms despite having high knowledge of them (Boulos, Boulos, & Nichols, 1991). In addition, men reported that women should take responsibility for family planning (Boulos et al., 1991). More recent studies have focused only on clients of female sex workers (Couture, Soto, Akom, Joseph, & Zunzunegui, 2010a, 2010b). Therefore, the aim of this study was to examine the association between men's attitudes toward IPV, knowledge about condom use, and condom use during last sex using a nationally representative sample of men in Haiti.

Method

Study Design

This study uses secondary data from the 2012 Demographic and Health Survey (DHS) collected by the Haitian Childhood Institute in all 10 departments of Haiti from January to June 2012 (Ministry of Public Health and

Population, 2013). DHS used a two-stage sampling strategy to select a nationally representative sample of households for inclusion. Funding for the DHS was provided by the United States Agency for International Development (USAID); the United Nations Children's Fund (UNICEF); the Canadian International Development; the Global Fund to fight AIDS, Tuberculosis, and Malaria, and the United Nations Development Program (UNDP); and the United Nations Population Funds (UNFPA). A total of 14,287 women aged 15-49 and 9,493 men aged 15-59 were interviewed. For the purpose of this study, our analyses included only the 9,943 men. The topic of this analysis was men's knowledge and behaviors regarding HIV/AIDS. Permission to use the data was obtained from Measure DHS, which is USAID-funded and assists and funds population and health surveys in countries worldwide (Cayemittes et al., 2013)). For more information about survey design, data collection, and management, see the 2012 Haiti DHS final report (Cayemittes et al., 2013,).

Variables

Outcome variables. Self-reported data related to condom use were collected in the DHS. For this study, we used measures of condom use and knowledge of condom use to prevent HIV infections: "condom used during last sex with most recent partner" (yes/no) and "knowledge that consistent condom use is an effective way for people to reduce their chances of getting HIV/AIDS" (yes/no), respectively.

Independent variables. Socio-demographic characteristics collected at the time of interview included age, educational level (none/primary/secondary or higher), religious affiliation (none/ Catholic/ Protestant/Vaudousant), marital status (never in a union/married/living in union/separated or widowed), and gender of the household head (male/female). Wealth was assessed through the DHS's wealth index, which was classified in quintiles from poorest to richest (poorest, poorer, middle, richer, richest). Other behavioral and attitudinal variables included access to condoms, belief that a wife is justified in asking her husband to use a condom, belief that a husband is justified in hitting or beating his wife if she refuses to have sex with him, ever being tested for HIV, HIV status, and paid for sex in the past 12 months. The categorizations and distributions of these variables are presented in Table 1.

Statistical analyses. Analyses were restricted to participants with complete data for the variables of interest and included calculating frequencies and percentages of all variables, calculating

Table 1. Demographic, Behavior, Knowledge, and Attitudes of Men (Demographic Health Survey Haiti, 2012).

	Frequency ^a	
	<i>n</i> = 9,493	%
Age range		
15-19	2,220	22.39
20-29	2,857	31.33
30-39	1,898	20.58
40 or older	2,518	25.71
Education		
No education	1,325	13.03
Primary	3,767	36.99
Secondary or higher	4,401	49.97
Religion		
No religion	965	11.81
Catholic	4,398	42.84
Protestant	3,983	43.86
Vaudousant	117	1.50
Wealth Index		
Poorest	2,143	17.93
Poorer	1,940	18.21
Middle	2,027	19.75
Richer	1,742	21.25
Richest	1,641	22.87
Marital status		
Never in union	4,596	48.53
Married	3,895	40.61
Living with partner	439	5.11
Separated/widowed/separated	563	5.75
Sex of household head		
Male	6,750	70.19
Female	2,743	29.81
Can get condom		
No	162	1.73
Yes	8,068	98.26
Knows consistent condom use prevent HIV		
No	1,006	9.91
Yes	8,335	90.09
Justified for a woman to ask her husband to use a condom		
No	961	10.04
Yes	8,483	89.95

(continued)

Table 1. (continued)

	Frequency ^a	
	<i>n</i> = 9,493	%
Justified for a husband to hit or beat his wife if she refuses to have sex with him		
No	8,967	95.38
Yes	475	4.62
Ever been tested for HIV		
No	6,685	69.60
Yes	2,808	30.40
HIV status		
HIV-negative	9,029	98.21
HIV-positive	170	1.79
Paid for sex in the past 12 months		
No	8,036	94.75
Yes	439	5.25
Condom used during last sex with most recent sex partner		
No	4,879	63.55
Yes	2,728	36.44

^aUnweighted frequencies and weighted percentages.

percentages of characteristics associated with knowledge about condom use and its prevention of HIV, calculating percentages of characteristics associated with condom use during the last sexual encounter, and conducting multivariate logistic regression analyses. Only the variables that were significant in the bivariate analyses were included in the multivariate logistic regression models. Our analyses were conducted using SAS statistical software version 9.3 (SAS Institute Inc., Cary, NC) and accounted for the sampling design using weights provided by DHS.

Results

The sample consisted of 9,493 men with 3,767 (37%) having a primary education (Table 1). Approximately, 4,398 (43%) reported being Catholic and 2,027 (20%) were in the middle wealth index. Nearly half of the men 4,596 (49%), were married and the majority of them 6,750 (70%), resided in a household where either they or other males were the head of the household. Almost all 8068 (98%), 8,335 (90%) reported they could access condoms and that they knew that people could reduce their chances of getting HIV by using

a condom every time they had sex, respectively. Similarly, most of the men, 8,483 (90%), believed it was justified for a woman to ask her husband to use a condom, and most of them, 8,967 (95%), did not believe it was justified for a husband to hit or beat his wife if she refuses to have sex with him. Only 2,808 (30.4%) had been tested for HIV and 170 (1.79%) were known to be HIV-positive. A small proportion, 439 (5.2%), reported paying for sex in the past 12 months and only 2,728 (36%) had used a condom during last sex with the most recent sex partner.

As reported in Table 2, bivariate analyses showed that men with a secondary education were more likely to know that consistent condom use can prevent HIV compared with men without a formal education ($\chi^2 = 7.42, p < .05$). Similarly, men in the middle wealth index were more likely to report knowing that condom use can prevent HIV than men in the poorest wealth index ($\chi^2 = 38.15, p < .0001$). Religion, marital status, and sex of household head were marginally significantly associated with knowledge of condom use for HIV prevention. Men who had been tested for HIV were more likely to report knowing that condom use can prevent HIV compared with those who had not been tested ($\chi^2 = 13.86, p < .001$). Furthermore, men who believed it was justified for a woman to ask her husband to use a condom were also more likely to report knowing that condom use can prevent HIV than men who did not ($\chi^2 = 18.20, p < .0001$). Age, access to condoms, HIV status, paid sex, and beliefs about husband hitting or beating his wife were not related to knowing that consistent condom use can prevent HIV.

As shown in Table 2, men in the 15- to 19-year-old and 20- to 29-year-old age categories were more likely to use a condom than older men ($\chi^2 = 776.57, p < .0001$). Education was positively associated with condom use, being lowest among men without any formal education and highest among men with secondary education or more ($\chi^2 = 629.93, p < .0001$). Compared with men who reported having no formal religion, men who were either Catholic or Protestant were more likely to use a condom ($\chi^2 = 17.70, p < .01$). Men in the richest wealth index were more likely to use a condom than men in the poorest wealth index ($\chi^2 = 381.31, p < .0001$). Men who had never married were significantly more likely to use a condom than married men ($\chi^2 = 1279.92, p < .001$). Similarly, men who lived with a female household head reported higher condom use than men who did not ($\chi^2 = 153.78, p < .0001$). As expected, men who reported they could get a condom and men who had been tested for HIV were also more likely to use a condom than those who could not ($\chi^2 = 8.44, p < .05$; $\chi^2 = 46.05, p < .001$, respectively). Having paid for sex in the past 12 months was associated with higher rate of condom use ($\chi^2 = 16.63, p < .05$). Men who believed it was justified for a woman to ask her husband to use a condom were more likely to use a condom than men

Table 2. Characteristics Associated With Knowing Condoms Prevent HIV and Condom Use.

	Knows Consistent Condom Use Prevent HIV	Condom Use During Last Sex
	(%) Yes	(%) Yes
Age range		
15-19	88.38	58.44
20-29	90.6	55.11
30-39	90.11	27.43
40 or older	90.93	12.97
	Not significant	$\chi^2 = 776.57, p < .0001$
Education		
No education	87.76	10.26
Primary	89.83	23.48
Secondary	90.87	52.44
	$\chi^2 = 7.42, p < .05$	$\chi^2 = 629.93, p < .0001$
Religion		
No religion	93.64	32.97
Catholic	90.46	35.77
Protestant	88.79	38.95
Vaudousant	91.53	20.83
	$\chi^2 = 16.74, p < .01$	$\chi^2 = 17.70, p < .01$
Wealth Index		
Poorest	86.83	17.37
Poorer	91.07	25.1
Middle	93.56	36.88
Richer	88.27	42.32
Richest	90.52	53.8
	$\chi^2 = 38.15, p < .0001$	$\chi^2 = 381.31, p < .0001$
Marital status		
Never in union	88.67	65.14
Married	90.94	12.25
Living with partner	94.46	42.36
Separated	92.12	46.37
	$\chi^2 = 15.44, p < .01$	$\chi^2 = 1279.92, p < .0001$
Sex of household head		
Male	90.77	31.23
Female	88.48	50.05
	$\chi^2 = 7.92, p < .01$	$\chi^2 = 153.78, p < .0001$

(continued)

Table 2. (continued)

	Knows Consistent Condom Use Prevent HIV	Condom Use During Last Sex
	(%) Yes	(%) Yes
Can get a condom		
No	92.55	21.33
Yes	89.65	38.42
	Not significant	$\chi^2 = 8.44, p < .05$
Ever been tested for HIV		
No	89.17	33.1
Yes	92.17	42.72
	$\chi^2 = 13.86, p < .001$	$\chi^2 = 46.05, p < .0001$
HIV status		
HIV-negative	90.12	36.29
HIV-positive	89.87	44.1
	Not significant	Not significant
Paid for sex in the past 12 months		
No	90.74	35.76
Yes	94.69	47.92
	Not significant	$\chi^2 = 16.63, p < .0001$
Justified for a woman to ask her husband to use a condom		
No	85.34	26.18
Yes	90.66	37.51
	$\chi^2 = 18.20, p < .0001$	$\chi^2 = 24.26, p < .0001$
Justified for a husband to hit or beat his wife if she refuses to have sex with him		
No	90.06	37.06
Yes	90.36	24.23
	Not significant	$\chi^2 = 15.64, p < .0001$
Knows condom use prevent HIV		
No		30.46
Yes		37.29
		$\chi^2 = 8.27, p < .05$

who did not believe it was justified ($\chi^2 = 24.26, p < .0001$). In contrast, men who believed it was justified for a husband to hit or beat his wife if she refuses to have sex with him were less likely to use a condom than men who did not believe it was justified ($\chi^2 = 15.64, p < .0001$). Finally, men who

reported knowing condom use can prevent HIV were more likely to use a condom than those who did not ($\chi^2 = 8.27, p < .05$).

Multivariate logistic regression revealed that men with secondary education or higher were more likely to report that they knew that condoms can prevent HIV (odds ratio [OR] = 1.62, 95% confidence interval [CI] = [1.20, 2.18]) than men 20 to 29 years old (Table 3). Catholic and Protestant men were less likely to know that condom can prevent HIV than non-religious men (OR = 0.57, 95% CI = [0.40, 0.81]; OR = 0.47, 95% CI = [0.33, 0.67], respectively). Men in the middle wealth index were more likely to report that they knew that condoms can prevent HIV (OR = 1.98, 95% CI = [1.50, 2.60]) than men in the poorest wealth index. Men who had never been in a union and men living with a female household head were less likely to report that they knew condoms could prevent HIV than married men and those living with male household head (OR = 0.78, 95% CI = [0.63, 0.96]; OR = 0.76, 95% CI = [0.63, 0.92]). Having been tested for HIV and believing it was justified for a woman to ask her husband to use a condom were associated with higher odds of knowing condoms can prevent HIV (OR = 1.26, 95% CI = [1.02, 1.55]; OR = 1.51, 95% CI = [1.19, 1.93], respectively).

Multivariate logistic regression indicated that men in the 15- to 19-year-old and 20- to 29-year-old categories were significantly more likely to have used a condom compared with those older than 50 years (OR = 1.86, 95% CI = [1.24, 2.79]; OR = 1.93, 95% CI = [1.34, 2.79], respectively; Table 4). Men with a secondary education or higher were more likely to have used a condom compared with men without a formal education (OR = 2.35, 95% CI = [1.70, 3.26]). Condom use was significantly higher among Catholic and Protestant men (OR of 1.67, 95% CI = [1.29, 2.15]; OR = 1.44, 95% CI = [1.10, 1.87], respectively). Men who were in the middle, richer, and richest wealth index categories were more likely to use a condom than men in the poorest wealth index category (OR = 1.97, 95% CI = [1.52, 2.55]; OR = 2.13, 95% CI = [1.64, 2.78]; OR = 3.06, 95% CI = [2.34, 4.00], respectively). Men who had never been married were significantly more likely to have used a condom (OR = 10.25, 95% CI = [8.15, 12.89]) than married men. Having been tested for HIV was significantly associated with condom use, as men who had been tested had higher odds of having used a condom (OR = 1.50, 95% CI = [1.26, 1.79]) than men who had not. Attitudes towards IPV remained significantly associated with condom use as men who believed it was justified for a husband to hit or beat his wife if she refuses to have sex with him were less likely to use a condom than men who did not believe it was justified (OR = 0.56, 95% CI = [0.39, 0.81]) .

Table 3. Multivariate Logistic Regression Analyses of Knowing Condom Can Prevent HIV.

	Unadjusted Odds Ratio	p Value	Adjusted Odds Ratio	p Value
Education		<.05		<.05
No education				
Primary	1.23 (0.97-1.57)		1.33 (1.02-1.73)	
Secondary or higher	1.39 (1.10-1.75)		1.62 (1.20-2.18)	
Religion		<.05		<.05
No religion				
Catholic	0.64 (0.46-0.90)		0.57 (0.40-0.81)	
Protestant	0.54 (0.39-0.75)		0.47 (0.33-0.67)	
Vaudousant	0.73 (0.35-1.52)		0.60 (0.29-1.24)	
Wealth Index		<.0001		<.0001
Poorest				
Poorer	1.55 (1.22-1.96)		1.49 (1.17-1.91)	
Middle	2.20 (1.70-2.86)		1.98 (1.50-2.60)	
Richer	1.14 (0.89-1.46)		0.98 (0.75-1.29)	
Richest	1.44 (1.13-1.85)		1.21 (0.91-1.61)	
Marital status		<.05		<.05
Married				
Never in union	0.78 (0.66-0.93)		0.78 (0.63-0.96)	
Living with partner	1.70 (0.10-2.89)		1.50 (0.87-2.58)	
Separated	1.17 (0.73-1.84)		1.17 (0.74-1.86)	
Sex of household head		<.05		<.05
Male				
Female	0.78 (0.66-0.93)		0.76 (0.63-0.92)	
Ever been tested for HIV		<.001		<.05
No				
Yes	1.43 (1.18-1.73)		1.26 (1.02-1.55)	
Justified for a woman to ask her husband to use a condom				<.05
No		<.001		
Yes	1.67 (1.32-2.11)		1.51 (1.19-1.93)	

Discussion

To our knowledge, this is the first nationally representative study to examine the factors associated with knowledge of consistent condom use as a tool to prevent HIV transmission and condom use with recent sexual partners among men in Haiti. Overall, the majority (98%) of the men knew that people can

Table 4. Multivariate Logistic Regression Analyses of Condom Use During Last Sex With Most Recent Partner.

	Unadjusted Odds Ratio	p Value	Adjusted Odds Ratio	p Value
Age range		<.0001		<.05
20-29				
15-19	1.15 (0.95-1.38)		0.95 (0.76-1.18)	
30-39	0.31 (0.26-0.36)		0.70 (0.56-0.87)	
40 or older	0.12 (0.10-0.15)		0.58 (0.45-0.75)	
Education		<.0001		<.0001
No education				
Primary	2.68 (2.06-3.50)		1.21 (0.88-1.67)	
Secondary or higher	9.64 (7.48-12.43)		2.31 (1.67-3.21)	
Religion		<.001		<.05
Catholic				
No religion	0.88 (0.73-1.07)		0.58 (0.45-0.76)	
Protestant	1.15 (1.01-1.30)		0.83 (0.71-0.98)	
Vaudousant	0.47 (0.27-0.80)		0.81 (0.40-1.66)	
Wealth Index		<.0001		<.0001
Poorest				
Poorer	1.59 (1.30-1.95)		1.23 (0.95-1.59)	
Middle	2.78 (2.29-3.37)		1.87 (1.44-2.43)	
Richer	3.49 (2.88-4.23)		2.10 (1.60-2.74)	
Richest	5.54 (4.59-6.69)		2.96 (2.26-3.88)	
Marital status		<.0001		<.0001
Married				
Never in union	13.38 (11.53-15.53)		10.58 (8.42-13.31)	
Living with partner	5.26 (4.02-6.89)		3.86 (2.84-5.25)	
Separated	6.19 (4.75-8.06)		7.01 (5.17-9.50)	
Sex of household head		<.0001		<.05
Male				
Female	2.21 (1.94-2.51)		1.25 (1.06-1.48)	
Can get a condom		<.05		Not significant
No				
Yes	2.3 (1.29-4.10)		1.73 (0.85-3.51)	
Knows condom prevents HIV		<.05		<.05
No				
Yes	1.34 (1.10-1.67)		1.58 (1.21-2.06)	
Ever been tested for HIV		<.0001		<.0001
No				
Yes	1.51 (1.34 -1.70)		1.50 (1.26-1.78)	
Paid for sex in the past 12 months		<.0001		Not significant
No				
Yes	1.65 (1.30-2.11)		1.05 (0.76-1.44)	
Justified for a woman to ask her husband to use a condom		<.0001		<.05
No				
Yes	1.69 (1.37-2.10)		1.53 (1.16-2.02)	
Justified for a husband to hit or beat his wife if she refuses to have sex with him		<.0001		<.05
No				
Yes	0.54 (0.40-0.74)		0.56 (0.39-0.81)	

reduce their chances of contracting HIV if they consistently used condoms. Given the high rate of men who reported knowing consistent condom use can prevent HIV, we would expect a greater proportion of them to have used a condom during their most recent sexual encounter. However, more than half of them had not used a condom with their most recent sexual partner. Compared with other countries, the level of basic knowledge about condom use in our study was much higher than the 68% of young men in India who reported being aware of condoms and their role in preventing HIV/AIDS, but similar to findings in Swaziland and Namibia (Arundhati, Minna, & Teija, 2011; Reynolds, Luseno, & Speizer, 2012). Similarly, The prevalence of condom use at last sex among men in our study (36%) was higher than what has been reported for men in Tanzania (20%) and Zambia (22%) but lower than Swaziland (49%) and Namibia (57%; Reynolds et al., 2012).

A number of factors were associated with knowledge of condom use as a barrier for HIV transmission. Education and wealth were positively correlated with knowing condom use can prevent HIV, except that the findings for men in the richest wealth categories were not significant. Men who had never been married were less likely to report knowing that condom use can prevent HIV. Our findings support prior research with regards to education but differ for marital status, as the results in another study found unmarried men were most likely to believe that condoms were the best HIV prevention method (Steele, Bukusi, Cohen, Shell-Duncan, & Holmes, 2006). Both Catholics and Protestants were less likely than non-religious men to report knowing that condom use can prevent HIV. This difference in HIV-related prevention beliefs between religious and non-religious men may be explained by the type of HIV/AIDS-related prevention messages religious men receive in the Catholic and evangelical churches (Agadjanian, 2005). Previous HIV testing was associated with men's increased likelihood of knowing the benefits of consistent condom use to prevent HIV. It is possible that men who have been tested for HIV have more knowledge about condom use as a HIV prevention method because of advice they receive from HIV testing counselors. Men who had positive attitudes about women asking their husbands to use a condom were more likely to report knowing condom use can prevent HIV. This finding supports a study showing that less conservative gender attitudes toward sexual decision making are related to more accurate HIV/AIDS knowledge (Tang, Wong, & Lee, 2001).

In this study, we found that belief in consistent condom use as an HIV prevention method was positively associated with condom use during last sex, implying that the beliefs men hold regarding HIV prevention methods influence their sexual practices. Our finding supports a study that examined condom use among men in Tanzania, Namibia, Swaziland, and Zambia,

showing that knowledge that condoms can prevent HIV was positively associated with condom use in all but one of the countries (Reynolds, Luseno, & Speizer, 2013). Less than 20% of men 30 years or older reported using a condom during their most recent sexual act, suggesting a need to increase condom use among older men. Although we controlled for marital status, one possible reason older men may use condoms less might be their greater likelihood to have main partners, thereby making them feel less vulnerable to HIV. The belief that condoms are considered unnecessary to men who have main partners is consistent with other studies reporting low rates of condom use among married men, for example, 12% in South Africa and 8% in Uganda (Maharaj, Neema, Cleland, Busza, & Shah, 2012). Given that condom use may be considered an "intruder" among married couples, there is a need to make men with main partners more aware of the possible risk of contracting HIV from their partners as recent findings show that married women are less likely to use condoms with extramarital partners (de Walque & Kline, 2011).

One way to encourage condom use among men in Haiti who are in stable relationships may be through couples-based voluntary counseling and testing (CVCT). Similar to findings of another study, men who had been tested for HIV were significantly more likely to use condoms (Conserve, Sevilla, Mbwambo, & King, 2013). Although HIV status was not associated with condom use in our study, knowledge of a partner's HIV status has been found to be a predictor of condom use (Conserve et al., 2013; Conserve, Sevilla, Younge, Mbwambo, & King, 2012). More efforts are needed to promote CVCT in Haiti as a number of studies have reported that CVCT is cost-effective in helping couples learn about their and their partner's HIV status and leads to higher levels of protected sexual intercourse when compared with individual voluntary counseling and testing (VCT; Speizer, Beauvais, Gómez, Outlaw, & Roussel, 2009; Sweat et al., 2000).

We found that the beliefs men held regarding gender relationships were also associated with condom use. As expected, men who believed it was justified for a woman to ask her husband to use a condom were more likely to use condoms and the reverse was observed among men who believed it was justified for a husband to hit or beat his wife if she refused to have sex with him. This finding supports a recent study in Haiti showing that men with a history of perpetrating emotional and physical IPV used condoms inconsistently with intimate and occasional partners (Couture et al., 2010b).

The strengths of our study include the use of a nationally representative dataset to examine condom use among men, a group that has received little attention in the literature. Given the representativeness of our sample, our findings are generalizable to the population of men in Haiti. While recall and social desirability biases affect participants' responses about condom use,

condom use during last sex with the most recent partner may be easier for participants to remember than condom use in the past 3 or more months. On the contrary, assessing condom use during the last sexual encounter does not capture differences in condom use over a period of time or indicate how condom use may vary based on the sexual partner type. Although using DHS data had some advantages in terms of providing a nationally representative large sample, we were limited by the pre-determined categorizations of variables such as wealth status and other independent variables for which more nuanced response categories might have been able to capture more information. In addition, the association between attitudes toward IPV and condom use warrants more investigation in order to identify other factors promoting IPV among men. Although we had wealth as a socio-economic indicator, given that the Haitian population is predominantly poor and few families have savings, we would have preferred to have an alternative indicator (e.g., household possessions, income) that may be more sensitive and better able to differentiate socio-economic status in this setting. Future studies should also incorporate other income measures and condom use questions during sex in the past 2 months.

Overall, our findings suggest the need to promote condom use as protected sex remains low among men in Haiti despite high levels of knowledge of the role of condoms in preventing HIV and the ability to access condoms. On the more encouraging side, we found that knowing condom use can reduce a person's chance of acquiring HIV and having been tested for HIV were positively associated with condom use. Increasing the number of men who seek HIV VCT may provide men with the opportunity to not only reinforce what they know about condoms but increase their desires to use condoms. While it is generally believed that men have more power in influencing condom use, it is important to encourage men to protect themselves and their partners by having safer sex discussions with their partners (Mfecane, 2013). The decreased likelihood of men who favor IPV to use condoms indicates that interventions designed to change gender norms and attitudes toward IPV among men may also increase condom use. Interventions that have integrated HIV prevention with gender-based violence prevention have been successful in reducing men's negative attitudes and violence toward women and increased men's communication with sex partners about condoms (Kalichman et al., 2009). Our study revealed the need to implement similar HIV and gender-based violence prevention programs in Haiti.

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