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Attitudes towards intimate partner violence and the association 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 towards intimate partner violence, knowledge of and use of condoms among 9,493 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 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 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.

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 (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 the 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 towards the 2011United 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).

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Although the relationship between intimate partner violence (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 et al. 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).

The consequences of IPV perpetrated for women include physical, emotional, and verbal abuse as well as sexually transmitted infections such as HIV. 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 intimate partner violence 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). The underlying factors placing women who are exposed to IPV at risks for HIV are related to the fact that 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.

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 towards 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 1986–87 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, Boulos, Nichols, 1991). The 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 towards IPV, knowledge about condom use, and condom use during last sex using a nationally representative sample of men in Haiti.

METHODS

Study design

This study uses secondary data from the 2012 Demographic and Health Survey 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 age 15–49 and 9,493 men age 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 a USAID-funded that assist and fund population and health surveys in countries worldwide (Cayemittes & Charles). For more information about survey design, data collection and management, please see the 2012 Haiti DHS final report (Cayemittes & Charles).

Variables

Outcome variables—Self-reported data related to condom use were collected by 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 an union/married/living in union/separated or widowed), gender of the household head (male/female). Wealth was assessed through the DHS' 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 being 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 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, 8,068 (98%), 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 8,335 (90%). Similarly, most of the men believed it was justified for a woman to ask her husband to use a condom 8,483 (90%) 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 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 to 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 also reported in Table 2, men in the 15 to 19 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 to men who reported having no 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 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 ($\chi^2 = 15.64$, $p<.0001$). Lastly, 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 (OR: 1.62, 95% CI: 1.20, 2.18) than men 20–29 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: .47, 95% CI: .33, .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 know condom can 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 condom can prevent HIV (OR: 1.26, 95% CI: 1.02 – 1.55; OR: 1.51, 95% CI: 1.19, 1.93).

Multivariate logistic regression indicated that men in the 15 to 19 and 20 to 29 year-old categories were significantly more likely to have used a condom compared to those older than 50 years old (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 to men with no 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. Men who believed it was justified for a woman to ask her husband to use a condom were more likely to have used a condom (OR: 1.58, 95% CI: 1.20, 2.01) than men who did not. Having been tested for HIV was significantly associated with condom use, as men who had been tested had a higher odd of having used a condom (OR: 1.50, 95% CI: 1.26, 1.79) than men who had not.

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 sex partner among men in Haiti. Overall, the majority (98%) of the men knew that people can reduce their chances of contracting HIV if they consistently use 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 to some other developing 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, Reynolds, Luseno, & Speizer, 2012). 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, Luseno, & Speizer, 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 also less likely to report knowing that condom use can prevent HIV. Our findings for education are similar to another study, but different for marital status, as unmarried men in another study 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 evangelic 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 the advice they receive from HIV testing counselor. 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 towards 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 recent literature reporting low rates of condom use among married men, e.g. 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 married men or 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 HIV VCT (Speizer, Beauvais, Gómez, Outlaw, & Roussel, 2009; Sweat et al., 2000).

We found that the beliefs men held regarding gender relationships were 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 intimate partner violence (IPV) used condoms inconsistently with intimate, and occasional partners (Couture et al., 2010b).

The strengths of this 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 other hand, assessing condom use during 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 towards IPV and condom use warrants more investigation on other factors promoting IPV support 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, etc.) 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 two months.

Overall, our findings suggest the need to promote condom use as protected sex remains low among men in Haiti despite the high levels of knowledge of the role of condoms in preventing HIV and ability to access as condom. 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 voluntary counseling and testing (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 towards 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 combine efforts to prevent IPV and HIV among men in Haiti.

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References

Agadjanian V. Gender, religious involvement, and HIV/AIDS prevention in Mozambique. Social science & medicine. 2005; 61(7):1529–1539. [PubMed: 15869833]

Arundhati C, Minna S, Teija K. Assessing young unmarried men's access to reproductive health information and services in rural India. BMC Public Health. 11

Boulos ML, Boulos R, Nichols DJ. Perceptions and practices relating to condom use among urban men in Haiti. Studies in family planning. 1991; 22(5):318–325. [PubMed: 1759277]

Cayemittes M, Busangu Michelle Fatuma, de Dieu Bizimana Jean, Barrère Bernard, Sévère Blaise, Viviane, Charles CeE. Enquête Mortalité, Morbidité et Utilisation des Services, Haïti, 2012. 2013

Calverton, Maryland, USA: MSPP, IHE et ICF International;

Conserve D, Sevilla L, Mbwambo J, King G. Determinants of previous HIV testing and knowledge of partner's HIV status among men attending a voluntary counseling and testing clinic in Dar es Salaam, Tanzania. American journal of men's health. 2013; 7(6):450–460.

Conserve D, Sevilla L, Younge S, Mbwambo J, King G. Condom Use among HIV-Positive Sexually Active Adults and Partner's HIV Status in Dar es Salaam, Tanzania. Journal of Health Care for the Poor and Underserved. 2012; 23(1):191–203. [PubMed: 22643471]

Couture M-C, Soto JC, Akom E, Joseph G, Zunzunegui M-V. Determinants of intention to use condoms among clients of female sex workers in Haiti. AIDS care. 2010a; 22(2):253–262. [PubMed: 20390504]

Couture M-C, Soto JC, Akom E, Joseph G, Zunzunegui M-V. Violence Against Intimate Partners and Associations with Inconsistent Condom Use Among Clients of Female Sex Workers in Haiti. Public Health Reports. 2010b; 125(6):896. [PubMed: 21121235]

de Walque D, Kline R. Variations in Condom Use by Type of Partner in 13 Sub-Saharan African Countries. Studies in family planning. 2011; 42(1):1–10. [PubMed: 21500696]

Dunkle KL, Jewkes RK, Nduna M, Levin J, Jama N, Khuzwayo N, Duvvury N. Perpetration of partner violence and HIV risk behaviour among young men in the rural Eastern Cape, South Africa. Aids. 2006; 20(16):2107–2114. [PubMed: 17053357]

Frye V, Ompad D, Chan C, Koblin B, Galea S, Vlahov D. Intimate partner violence perpetration and condom use-related factors: associations with heterosexual men's consistent condom use. AIDS and Behavior. 2011; 15(1):153–162. [PubMed: 20069447]

Gage AJ. Women's experience of intimate partner violence in Haiti. Social science & medicine. 2005; 61(2):343–364. [PubMed: 15893051]

Gage AJ, Hutchinson PL. Power, control, and intimate partner sexual violence in Haiti. Archives of sexual behavior. 2006; 35(1):11–24. [PubMed: 16502150]

Gaillard E, Boulos L, Cayemittes MA, Eustache L, Van Onacker J, Duval N, Thimoté G. Understanding the reasons for decline of HIV prevalence in Haiti. Sexually Transmitted Infections. 2006; 82(suppl 1):i14–i20. [PubMed: 16581754]

Jewkes RK, Dunkle K, Nduna M, Shai N. Intimate partner violence, relationship power inequity, and incidence of HIV infection in young women in South Africa: a cohort study. The lancet. 2010; 376(9734):41–48.

Kalichman SC, Simbayi LC, Cloete A, Clayford M, Arnolds W, Mxoli M, Crawford M. Integrated gender-based violence and HIV Risk reduction intervention for South African men: results of a quasi-experimental field trial. Prevention Science. 2009; 10(3):260–269. [PubMed: 19353267]

Karamagi CA, Tumwine JK, Tylleskar T, Heggenhougen K. Intimate partner violence against women in eastern Uganda: implications for HIV prevention. BMC Public Health. 2006; 6(1):1–12. [PubMed: 16390547]

Maharaj P, Neema S, Cleland J, Busza J, Shah I. Condom use within marriage: an assessment of changes in South Africa and Uganda. AIDS care. 2012; 24(4):444–450. [PubMed: 22085286]

Maman S, Campbell J, Sweat MD, Gielen AC. The intersections of HIV and violence: directions for future research and interventions. Social science & medicine. 2000; 50(4):459–478. [PubMed: 10641800]

Maman S, Mbwambo JK, Hogan NM, Kilonzo GP, Campbell JC, Weiss E, Sweat MD. HIV-positive women report more lifetime partner violence: findings from a voluntary counseling and testing clinic in Dar es Salaam, Tanzania. American Journal of Public Health. 2002; 92(8):1331–1337. [PubMed: 12144993]

Mantell JE, Smit JA, Beksinska M, Scorgie F, Milford C, Balch E, Exner TM. Everywhere you go, everyone is saying condom, condom. But are they being used consistently? Reflections of South African male students about male and female condom use. Health education research. 2011; 26(5): 859–871. [PubMed: 21693684]

Mfecane S. Can women 'refuse'condoms? Dilemmas of condom negotiation among men living with HIV in South Africa. Culture, health & sexuality. 2013; 15(3):269–282.

Raj A, Santana MC, La Marche A, Amaro H, Cranston K, Silverman JG. Perpetration of intimate partner violence associated with sexual risk behaviors among young adult men. Journal Information. 2006; 96(10)

Reynolds HW, Luseno WK, Speizer IS. The measurement of condom use in four countries in East and southern Africa. AIDS and Behavior. 2012; 16(4):1044–1053. [PubMed: 22307821]

Reynolds HW, Luseno WK, Speizer IS. Consistent condom use among men with non-marital partners in four sub-Saharan African countries. AIDS care. 2013; 25(5):592–600. [PubMed: 23062101]

Rosenberg MS, Seavey BK, Jules R, Kershaw TS. The role of a microfinance program on HIV risk behavior among Haitian women. AIDS and Behavior. 2011; 15(5):911–918. [PubMed: 21153762]

Santana MC, Raj A, Decker MR, La Marche A, Silverman JG. Masculine gender roles associated with increased sexual risk and intimate partner violence perpetration among young adult men. Journal of urban health. 2006; 83(4):575–585. [PubMed: 16845496]

Speizer IS, Beauvais H, Gómez AM, Outlaw TF, Roussel B. Using Multiple Sampling Approaches to Measure Sexual Risk-taking Among Young People in Haiti: Programmatic Implications. Studies in family planning. 2009; 40(4):277–288. [PubMed: 23012724]

Steele MS, Bukusi E, Cohen CR, Shell-Duncan BA, Holmes KK. The ABCs of HIV prevention in men: associations with HIV risk and protective behaviors. JAIDS Journal of Acquired Immune Deficiency Syndromes. 2006; 43(5):571–576. [PubMed: 17019371]

Sweat M, Gregorich S, Sangiwa G, Furlonge C, Balmer D, Kamenga C, Coates T. Cost-effectiveness of voluntary HIV-1 counselling and testing in reducing sexual transmission of HIV-1 in Kenya and Tanzania. The lancet. 2000; 356(9224):113–121.

Tang CSK, Wong C-y, Lee AM. Gender-related psychosocial and cultural factors associated with condom use among Chinese married women. AIDS Education and Prevention. 2001; 13(4):329–342. [PubMed: 11565592]

Townsend L, Jewkes R, Mathews C, Johnston LG, Flisher AJ, Zembe Y, Chopra M. HIV risk behaviours and their relationship to intimate partner violence (IPV) among men who have multiple female sexual partners in Cape Town, South Africa. AIDS and Behavior. 2011; 15(1):132–141. [PubMed: 20217470]

UNAIDS. The status of HIV in the Caribbean. 2010

UNAIDS. Report on the global HIV epidmic. 2013

Table 1

Demographic, behavior, knwoledge and attitudes of men (DHS Haiti, 2012)

	Frequency[a] n = 9493	%
Age Range		
15–19	2220	22.39
20–29	2857	31.33
30–39	1898	20.58
40 or older	2518	25.71
Education		
No education	1325	13.03
Primary	3767	36.99
Secondary or higher	4401	49.97
Religion		
No religion	965	11.81
Catholic	4398	42.84
Protestant	3983	43.86
Vaudousant	117	1.5
Wealth Index		
Poorest	2143	17.93
Poorer	1940	18.21
Middle	2027	19.75
Richer	1742	21.25
Richest	1641	22.87
Marital Status		
Never in union	4596	48.53
Married	3895	40.61
Living with partner	439	5.11
Separated/widowed/separated	563	5.75
Sex of household head		
Male	6750	70.19
Female	2743	29.81
Can get condom		
No	162	1.73
Yes	8068	98.26
Knows consistent condom use prevent HIV		
No	1006	9.91
Yes	8335	90.09
Justified for a woman to ask her husband to use a condom		
No	961	10.04
Yes	8483	89.95
Justified for a husband to hit or beat his wife if she refuses to have sex with him		

	Frequency[a] n = 9493	%
No	8967	95.38
Yes	475	4.62
Ever been tested for HIV		
No	6685	69.6
Yes	2808	30.4
HIV status		
HIV-negative	9029	98.21
HIV-positive	170	1.79
Paid for sex in the past 12 months		
No	8036	94.75
Yes	439	5.25
Condom used during last sex with most recent sex partner		
No	4879	63.55
Yes	2728	36.44

[a]Unweighted frequencies and weighted percentages

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
	$\chi 2 = 7.92$, $p < .01$	$\chi 2 = 153.78$, $p < .0001$
Can get a condom		
No	92.55	21.33
Yes	89.65	38.42
	Not significant	$\chi 2 = 8.44$, $p < .05$

	Knows consistent condom use prevent HIV	Condom use during last sex
	(%) Yes	**(%) Yes**
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
		$\chi^2 = 8.27$, $p < .05$

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	1		1	
Primary	1.23 (.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	1		1	
Catholic	.64 (.46 – .90)		.57 (.40 – .81)	
Protestant	.54 (.39 – .75)		.47 (.33 – .67)	
Vaudousant	.73 (.35 – 1.52)		.60 (.29 – 1.24)	
Wealth Index		<0.0001		<.0001
Poorest	1		1	
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 (.89 – 1.46)		.98 (.75 – 1.29)	
Richest	1.44 (1.13 – 1.85)		1.21 (.91 – 1.61)	
Marital Status		<.05		<.05
Married	1		1	
Never in union	.78 (.66 – .93)		.78 (.63 – .96)	
Living with partner	1.70 (.10 – 2.89)		1.50 (.87 – 2.58)	
Separated	1.17 (.73 – 1.84)		1.17 (.74 – 1.86)	
Sex of household head		<.05		<.05
Male	1		1	
Female	.78 (.66 – .93)		.76 (.63 – .92)	
Ever been tested for HIV		<.001		<.05
No	1		1	
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	1	<0.0001	1	
Yes	1.67 (1.32 – 2.11)		1.51 (1.19 – 1.93)	

Table 4

Multivariate logistic regression analyses of condom use during last sex with most recent paertner

	Unadjusted Odds Ratio	p value	Adjusted Odds Ratio	p value
Age Range		<.0001		<.05
20–29	1		1	
15–19	1.15 (.95 – 1.38)		.95 (.76 – 1.18)	
30–39	.31 (.26 – .36)		.70 (.56 – .87)	
40 or older	.12 (.10 – .15)		.58 (.45 – .75)	
Education		<.0001		<.0001
No education	1		1	
Primary	2.68 (2.06 – 3.50)		1.21 (.88 – 1.67)	
Secondary or higher	9.64 (7.48 – 12.43)		2.31 (1.67 – 3.21)	
Religion		<.001		<.05
Catholic	1		1	
No religion	.88 (.73 – 1.07)		.58 (.45 – .76)	
Protestant	1.15 (1.01 – 1.30)		.83 (.71 – .98)	
Vaudousant	.47 (.27 – .80)		.81 (.40 – 1.66)	
Wealth Index		<.0001		<.0001
Poorest	1		1	
Poorer	1.59 (1.30 – 1.95)		1.23 (.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	1		1	
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	1		1	
Female	2.21 (1.94 – 2.51)		1.25 (1.06 – 1.48)	
Can get a condom		<.05		Not significant
No	1		1	
Yes	2.3 (1.29 – 4.10)		1.73 (.85 – 3.51)	
Knows condom prevent HIV		<.05		<.05
No	1		1	
Yes	1.34 (1.10 – 1.67)		1.58 (1.21 – 2.06)	
Ever been tested for HIV		<.0001		<.0001
No	1		1	
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	1		1	

	Unadjusted Odds Ratio	p value	Adjusted Odds Ratio	p value
Yes	1.65 (1.30 – 2.11)		1.05 (.76 – 1.44)	
Justified for a woman to ask her husband to use a condom		<.0001		<.05
No	1		1	
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	1		1	
Yes	.54 (.40 – .74)		.56 (.39 – .81)	