Published in final edited form as:
J Health Care Poor Underserved. 2012 February ; 23(1): 191–203. doi:10.1353/hpu.2012.0010.

Condom Use among HIV-Positive Sexually Active Adults and Partner's HIV Status in Dar es Salaam, Tanzania

Donaldson Conserve, MS, **Luis Sevilla, PhDc**, **Sinead Younge, PhD**, **Jessie Mbwambo, MD**, and **Gary King, PhD**
Department of Biobehavioral Health, The Pennsylvania State University (Penn State) (DC, GK), the Department of Applied Economics Penn State (LS), the Department of Psychology at Morehouse College (SY) and the Department of Psychiatry at Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania (JM).

Abstract

Consistent and proper use of condoms has been found to be effective in preventing HIV transmission and other sexually transmitted diseases. We examined the predictors of condom use and knowledge of partner's HIV status among 731 HIV-positive individuals who had sex in the past six months. Data are from an incoming service form administered to clients who visited the Muhimbili University College of Health Sciences' Voluntary Counseling and Testing (VCT) site in Dar es Salaam, Tanzania between 1997–2008 (N=45,071). Sixteen percent reported always using a condom in the past six months. Multivariate logistic regression revealed that age, and knowledge of partner's HIV status were the strongest predictors of consistent condom use. The risk of future HIV infections in this region remains high. Future efforts to prevent new HIV infections should aim to increase condom use, and prevention practices that facilitate HIV-positive individuals to communicate their HIV status with partners.

Keywords

Condom use; HIV-positive; partner's HIV status; Tanzania

In Tanzania, as in other countries in sub-Saharan Africa, unprotected sex remains the primary mode of HIV transmission.[1] Despite the prevention efforts undertaken by the Tanzanian National AIDS Control Program to reduce the rate of HIV infection, 6% of adults aged 15–49 were estimated to be infected with HIV in 2007–2008.[2] The spread of HIV in Tanzania has been attributed to the low rate of condom use combined with the high rate of multiple sexual partners.[3] The Tanzania Demographic and Health Survey, conducted in 2010, revealed that among the respondents who reported having had sex with multiple partners in the past 12 months, only 24% of men and 27% of women used a condom the last time they had sexual intercourse.[3]

Please address correspondence to Donaldson Conserve at dxc341@psu.edu. .

Several behavioral, socioeconomic, and cultural factors related to condom use in Tanzania have been identified. Some of these factors include negative attitudes toward condoms, low perception of risk to HIV infection, lack of familiarity with condoms, alcohol use, lack of education, women's economic dependence on men, and their limited power in negotiating safe sex.[4–7] In an early study conducted in 1991–1992 among 2,285 women attending family planning clinics in Dar es Salaam, Kapiga et al. reported that while condom use was positively associated with an increased level of education and increased number of sex partners, 57.5% of women reported not ever having used a condom because men did not like them.[8] A survey of 1,551 respondents in an urban, a semi-urban, and a rural community in the Arusha region found that in both men and women, early sexual debut and being young, unmarried, travelling out of the Arusha region, and having multiple sexual partners were factors associated with increased condom use.[9] More recently a study by Plummer et al. found that the majority of respondents in nine rural villages in Tanzania reported that condoms reduced sexual pleasure and that they would not use a condom because they were unfamiliar with them, unable to have a say in decision-making regarding condom use, trusted their partners, did not want to prevent conception, and believed that they had little risk of acquiring a sexually transmitted infection (STI) or HIV.[10]

Although these studies reveal that one of the factors associated with condom use in Tanzania is having multiple partners, their focus was not on HIV-positive individuals and they did not investigate the impact of knowing the HIV status of one's partner on condom use. From a public health perspective, knowing the HIV status of one's partner is particularly important because empirical evidence from two countries in Africa has demonstrated that such information contributes to an increase in condom use, which subsequently reduces HIV infection. In a prospective study of 1,458 Rwandan women with two years of follow-up, Allen et al. found that women whose partners also received HIV testing and counseling were twice as likely to use condoms as women whose partners were not tested for HIV. Additional analyses from the same study revealed that the number of HIV-negative women who became infected during the two-year period decreased significantly (from 4.1 to 1.8 per 100 person-years) for women who knew their partner's HIV status and very little (from 4.1 to 3.4 per 100 person-years) for women who did not know their partner's HIV status.[11] The higher rate of condom use among women who are aware of their partner's HIV status is consistent with the results of the 2004–2005 Uganda HIV/AIDS Sero-Behavioral Survey of 1,092 HIV-positive adults. In this study, 9% of people living with HIV/AIDS who knew their partner's HIV status were 2.3 times more likely to use condoms than those unaware of their partner's HIV status.[12]

On the basis of the findings from Uganda and Rwanda, and the lack of research on condom use among HIV-positive individuals in Tanzania, we aim to expand the literature on knowledge of one's partner's HIV status by analyzing data from a sample of HIV-positive adults attending the Muhimbili University College of Health Sciences' Voluntary Counseling and Testing clinic in Dar es Salaam, the largest city and the region with the second highest HIV prevalence in Tanzania.[2] We examined the relationship between knowledge of a partner's HIV status and condom use among HIV-positive individuals who reported having engaged in sexual intercourse in the past six months. Building on previous research, we hypothesized that HIV-positive individuals aware of their partner's HIV status

would be more likely to use condoms than those unaware of their partner's HIV status. However, we extend the previous studies on this topic by assessing predictors of knowing the HIV status of one's partner. We hypothesized that HIV-positive men are more likely than women to know their partner's HIV status, and that HIV-positive individuals who have obtained more years of education are more likely than those with fewer years of education to know their partner's HIV status.

Methods

Procedures

Data were collected from an incoming service form administered to clients/respondents seeking HIV testing during 1997–2008 at the Muhimbili University College of Health Sciences' Voluntary Counseling and Testing clinic in Dar es Salaam, Tanzania. The form inquired about socio-demographic characteristics, HIV testing history for themselves and their sexual partners, sexual practices, reason for attending the clinic, and condom use in the previous six months. The instrument was written in Kiswahili, the national language of Tanzania. Of the 45,071 individuals who filled out the instrument, 731 met the analysis criteria of 18 years or older, HIV-positive, and reported having engaged in sexual intercourse six months prior to visiting the clinic. The HIV status of the clients was confirmed with the results of their Capillus HIV test.

Variables

The dependent variables were condom use within the past six months and knowledge of partner's HIV status. Condom use was assessed by the following question: Did you use a condom during sex in the past six months? Responses for condom use were no, sometimes, always, and not applicable. Respondents who reported not using or sometimes using condoms in the past six months were combined as neither group reported consistently using condoms, and thus the risk of infecting their HIV-negative partners was high in both groups. Knowledge of partner's HIV status refers to the respondent's awareness or unawareness of their partner's HIV status. Individuals who knew their partners were HIV-negative or HIV-positive were categorized as being aware of their partner's HIV status while those who did not know their partner's HIV status were considered unaware.

The independent variables selected for analysis were gender, age, years of education, marital status, employment type, knowledge of partner's HIV status, and number of children. The age range included all respondents between 18 and 65 years old. Marital status refers to being single (never married), married, or not married (divorced, widowed). The education variable consisted of the following two categories: 1) 0–7 years, and 2) 7 years or more. The employment variable had four categories: unemployed/other, housemaker, petty trader, and skilled labor. Knowledge of partner's HIV status refers to the respondent's awareness or unawareness of their partner's HIV status. Individuals who knew their partners were HIV-negative or positive were categorized as being aware of their partner's HIV status while those who did not know their partner's HIV status were considered unaware. The categories for number of children were: 1) no children; and 2) one or more.

Respondents also stated when they last had sex. To determine if they had engaged in sexual intercourse six months prior to attending the clinic, a most recent date of sexual intercourse variable was created by combining the day, month, and year the respondents reported they last had sex. Another variable was created using the difference between the most recent date of sexual intercourse variable and the date participants attended the clinic. If the difference was less than or equal to 180 days (six months), then it was assumed that the respondent had had sex in the past six months. Preliminary analyses revealed that individuals who reported not having had sex in the past six months were less likely than those who reported having had sex in the past six months to answer questions about condom use. Thus, only participants who reported that they had had sex in the past six months were included in the analysis.

Statistical analysis

First, we conducted univariate analyses to examine the distribution of the socio-demographic, knowledge of partner's HIV status, and condom use variables. Second, condom use and knowledge of partner's HIV status were cross-tabulated with the socio-demographic variables. We calculated effect sizes for significant associations found in the bivariate analyses using the phi and Cramer's V coefficients. Multivariate logistic regression models were used to examine predictors of condom use (consistent *vs*. inconsistent) over the past six months and knowledge of partner's HIV status (aware *vs*. unaware). SPSS for Windows, version 18.0 (SPSS Inc., Chicago, Illinois) was used for the analysis.

Results

The average age of the respondents was 34.4 years ±8.1 (range: 18–65). As shown in Table 1, more than half (67.9%) of the sample were women; 56.8% of respondents had completed between 0–7 years of education. Thirty-three percent of the clients were employed as skilled laborers, and 26.3% as petty traders. Almost two-thirds (62%) of the sample were married and a majority (62.7%) of clients were unaware of their partner's HIV status. Of the clients aware of their partner's HIV status, 23.0% had an HIV-positive partner. Consistent condom use was low (16.1%) and more than three-quarters (80.6%) had one or more children.

Bivariate analysis revealed that there was no statistically significant difference (16.2% *vs*. 16.1%) between males and females in consistent condom use (Table 2). Age was positively and significantly associated with condom use (χ^2=10.8, Cramer's V=0.12, p<.01), as it was lowest (9.6%) among the 18 to 29 years old group and highest (21.3%) among the 40 to 65 years old group. Knowledge of partner's HIV status was significantly associated with condom use. Individuals aware of their partner's HIV status were more likely (22.7% *vs*. 12.2%) to use condoms than those unaware of their partner's HIV status (χ^2=13.8, ϕ=−0.14, p<.001). Clients with HIV-positive partners were significantly more likely (26.8% *vs.* 16.2%) than those with HIV-negative partners to use condoms consistently (χ^2=19.2, Cramer's V=0.16, p<.001). Condom use was not related to education, employment status, marital status, or number of children.

As shown in Table 2, a greater proportion of males (42.3%) than females (34.9%) were aware of their partner's HIV status (χ^2=4.0, ϕ=0.07, p<.05). Individuals in the seven years or

less education category were less likely than higher educated clients (34.2% vs. 41.5%) to be aware of their partner's HIV status (χ^2=4.0, ϕ=−0.07, p<.05). Married respondents were more likely (44.8% vs. 20.0%) to be aware of their partner's HIV status than single/never married (20.0%) and unmarried (29.7%) clients (χ^2=31.2, Cramer's V=0.21, p<.001). Knowledge of partner's HIV status was not associated with age, employment status, and number of children. The bivariate associations were negligible to weak (0.07–0.14) for the phi coefficients and weak (0.12–0.21) for the Cramer's V coefficients.

In the multivariate logistic regression model, age emerged as a significant predictor of condom use (Table 3). Respondents between 30 to 39 years old group were significantly more likely than 18 to 29 year old respondents to use condoms (OR=2.55, 95% CI: 1.43–4.55). Similarly, individuals in the 40 to 65 year old group were significantly more likely than the 18 to 29 year old group to use condoms (OR=3.45, 95% CI: 1.74–6.86). Knowledge of partner's HIV status remained a significant predictor of condom use after controlling for other demographic predictors such as gender, education, employment, and marital status. Respondents unaware of their partner's HIV status were significantly less likely to use condoms than those aware of their partner's HIV status (OR=.43, 95% CI: .28–.66).

The multivariate logistic regression analysis indicated that education and marital status were significant predictors of knowledge of partner's HIV status (Table 4). Individuals with seven years or more of education were more likely to be aware of their partner's HIV status than those with fewer years of education (OR=1.52, 95% CI: 1.10–2.12). Married individuals were more likely than single respondents to be aware of their partner's HIV status (OR=3.38, 95% CI: 1.99–5.74). Unmarried clients were also significantly more likely than single/never married clients to be aware of their partner's HIV status (OR=1.88, 95% CI: 1.03–3.43).

Discussion

In this study, we examined the relationship between socio-demographic indicators, knowledge of partner's HIV status and condom use among HIV-positive adults in Tanzania. Overall, there was a low rate of condom use among the respondents and more than half of them were unaware of their partner's HIV status. Our study found that age and knowledge of partner's HIV status were strongly associated with condom use. In addition, our analysis revealed that education, and marital status were significant predictors of knowledge of partner's HIV status. Respondents who were aware of their partner's HIV status were more likely to have obtained more than seven years of education, be married, and report having engaged in protected sex than those who were unaware of their partner's HIV status. The high rate of unprotected sex among clients unaware of their partner's HIV status is contrary to what one might expects, but it is consistent with results from a study in Uganda.[13] This same study also found that HIV status disclosure to a partner was lowest among participants who were unaware of their partner's HIV status in contrast to those who knew their partner was HIV-positive or HIV-negative.[13]

Among the respondents who were aware of their partner's HIV status, individuals with an HIV-positive partner were more likely than those with an HIV-negative partner to

consistently use a condom, indicating that the risk for re-infection may be low in this population. Although gender was not associated with condom use, further analyses revealed that the majority of men and women who used a condom consistently were also aware of their partner's HIV status. This finding suggests that knowledge of partner's HIV status can promote safer sexual practices among men and women. One study conducted in Tanzania found that all HIV-positive and HIV-negative women who received HIV counseling and testing as a couple in comparison to those who received services as individual shared their results with their partner.[14] Hence, interventions aimed at increasing HIV testing and partner notification in Tanzania should also implement counseling programs that encourage both men and women to involve their partners in the HIV testing and counseling process.

Condom use varied markedly by socio-demographic characteristics as older clients were more likely to use condoms than younger clients. One possible explanation for this finding is that the older HIV-positive individuals may have a greater sense of personal responsibility than younger HIV-positive individuals to not infect their partners. This greater sense of personal responsibility can also serve as a motivation to take the steps necessary to inquire about their partner's HIV status, which then increases the likelihood of negotiating safer sex practices. Knowledge of partner's HIV status appeared to be relevant in consistent condom use among the older adults and thus we explored this relationship for all the clients by assessing a two-way interaction between age and knowledge of partner's HIV status and found no significant interaction.

Unlike the findings of a national survey conducted in Tanzania,[15] we did not find a positive relationship between education and condom use. The national survey showed condom use increased with increasing level of education, while the respondents in our study with more than seven years of education were less likely to use condoms. Our results indicate that HIV-positive individuals with varying levels of education may face similar obstacles to condom use and continue to engage in risky sexual behaviors even after becoming aware of their infection. The present study also showed that condom use among married clients was not consistent with findings from other studies that have found that condoms use is less common among married men and women.[13,15] A possible explanation for the lack of condom use found among married individuals in other studies may be the desire to procreate.[16] We suspect the reason that there was no difference in condom use between single and married clients in our study is because more than half of the married clients already had at least one child and therefore may use condom as a form of birth control.

As HIV-positive individuals continue to live longer, more Prevention with Positives programs especially in Africa will be highly important in curbing the epidemic. Voluntary counseling and testing programs in sub-Saharan Africa have led to an increase in HIV testing and risk reductions. However, more actions are needed to address the high rate of unprotected sex reported by HIV-positive individuals, especially among those individuals unaware of their partner's HIV status. Most HIV prevention efforts have been conceived using a rationalist or risk-reductionist framework which may leave out the broader cultural context that affect sexual behaviors of HIV-positive individuals. Researchers and interventionists interested in Prevention with Positive individuals in Africa should apply a framework that is culturally appropriate. The PEN-3 model, which was developed by

Airhihenbuwa in 1989 to guide a cultural approach to HIV/AIDS in Africa, is an approach that incorporates the broader socio-cultural context that influences behaviors of HIV-positive individuals.[17]

This study was limited due to clients' self-report of their partner's HIV status. In addition, the generalizability of this study may be limited because HIV-positive individuals who visited the clinic might be different from those who did not. Future studies should aim to increase the sample size as well as to recruit and follow each couple to determine if reports of sexual behavior and knowledge of HIV status for themselves and their partners are congruent. Another possible limitation of this study is that clients may have not known they were HIV-positive status for the entire past six months.

The result of low condom use highlights the need for the National AIDS Control Program in Tanzania to expand their efforts in promoting condoms for this group especially for married couples and among young HIV-positive people. This is also an opportunity for the Tanzanian government to implement policies that can expand access to medical care and treatment for HIV positive individuals. These services can assist HIV-positive individuals in a culturally appropriate method to disclose their HIV status and provide them the support needed to initiate risk-reduction behaviors with partners of negative or unknown HIV status.

In summary, we found a high proportion of HIV-positive individuals reporting to have not consistently used condoms in the past six months which means there is a high risk for HIV transmission. This finding was associated with certain socio-demographic variables and knowledge of partner's HIV status. These factors can be used to design interventions for those who know they are infected. More efforts at the national level are necessary in working with this group living with an already highly stigmatized disease.

Acknowledgments

This research was supported by the Minority Health and Health Disparities International Research Training Program of the Fogarty International Center Grant # 5 T 37 TW00113-08 and National Institute of Mental Health-COR Grant # MH-16573. The authors thank the project staff, and the respondents who visited the Muhimbili University College of Health Sciences' Voluntary Counseling and Testing (VCT) site. We are grateful for the valuable contributions of Dr. Ed Yoder, anonymous reviewers, and the Editor.

Notes

1. Joint United Nations Programme on HIV/AIDS. Report on the global AIDS epidemic. UNAIDS; Geneva, Switzerland: 2009.
2. Tanzania Commission for AIDS (TACAIDS). Zanzibar AIDS Commission (ZAC). National Bureauof Statistics (NBS). Office of the Chief Government Statistician (OCGS). Macro International, Inc.. Dar es Salaam. TACAIDS, ZAC, NBS, OCGS, and Macro International Inc.; Tanzania: 2008. Tanzania HIV/AIDS and Malaria Indicator Survey.
3. National Bureau of Statistics (NBS). ICF Macro. Dar es Salaam. NBS and ICF Macro; Tanzania: 2011. Tanzania Demographic and Health Survey.
4. Ukwuani F, Tsui O, Suchindran CM. Condom use for preventing HIV Infection/AIDS in sub-Saharan Africa: a comparative multilevel analysis of Uganda and Tanzania. J Acquir Immune Defic Syndr. Oct 1; 2003 34(2):203–13. [PubMed: 14526210]
5. Akarro R. Some factors associated with condom use among bar maids in Tanzania. J Biosoc Sci. Jan; 2009 41(1):125–37. [PubMed: 18442433]

6. Tassiopoulos K, Kapiga S, Sam N, et al. A case-crossover analysis of predictors of condom use by female bar and hotel workers in Moshi, Tanzania. Int J Epidemiol. Apr; 2009 38(2):552–60. [PubMed: 19147705]
7. Mwakulo G, Urassa M, Isingo R, et al. Trends in HIV and sexual behaviour in a longitudinal study in a rural population in Tanzania, 1994–2000. AIDS. Dec 5; 2003 17(18):2645–51. [PubMed: 14685059]
8. Kapiga SH, Lwihula GK, Shao JF, et al. Predictors of aids knowledge, condom use and high-risk sexual behaviour among women in Dar-Es-Salaam, Tanzania. Int J STD AIDS. May 1; 1995 3(6): 175–83. [PubMed: 7647120]
9. Mnyika KS, Klepp KI, Kvale G, et al. Determinants of high-risk sexual behaviour and condom use among adults in the Arusha Region, Tanzania. Int J STD AIDS. Mar 1; 1997 8(3):176–83. [PubMed: 9089028]
10. Plummer ML, Daniel W, Wamoyi J, et al. Farming with your hoe in a sack: condom attitudes, access, and use in rural Tanzania. Stud Fam Plann. Mar; 2006 37(1):29–40. [PubMed: 16570728]
11. Allen S, Serufilira A, Bogaerts J, et al. Confidential HIV testing and condom promotion in Africa. JAMA. Dec 16; 1992 268(23):3338–43. [PubMed: 1453526]
12. Bunnell R, Opio A, Musinguzi J, et al. HIV transmission risk behavior among HIV-infected adults in Uganda: results of a nationally representative survey. AIDS. Mar 12; 2008 22(5):617–24. [PubMed: 18317003]
13. Wagner G, Holloway I, Ghosh Dastidar B, et al. Factors associated with condom use among HIV clients in stable relationships with partners at varying risk for HIV in Uganda. AIDS Behav. Oct; 2010 14(5):1055–65. [PubMed: 20180008]
14. Maman S, Mbwambo JK, Hogan NM, et al. High rates and positive outcomes of HIV-serostatus disclosure to sexual partners: reasons for cautious optimism from a voluntary counseling and testing clinic in Dar Es Salaam, Tanzania. AIDS Behav. Dec; 2003 7(4):373–82. [PubMed: 14707534]
15. Kapiga SH, Lugalla JL. Male condom use in Tanzania: results from a national survey. East Afr Med J. Apr; 2003 80(4):181–90. [PubMed: 12918800]
16. Nakayiwa S, Abang B, Packel L, et al. Desire for children and pregnancy risk behavior among HIV-infected men and women in Uganda. AIDS Behav. Jul; 2006 10(4):95–104.
17. Airhihenbuwa CO. Culture and African contexts of HIV/AIDS prevention, care and support. SAHARA J. May; 2004 1(1):4–13. [PubMed: 17600995]

Table 1

DEMOGRAPHIC CHARACTERISTICS OF HIV-POSITIVE CLIENTS WHO HAD SEX IN THE PAST SIX MONTHS

	frequency n=731	% 100
Gender		
Males	235	32.1
Females	496	67.9
Age Range (years)		
18–29	219	30.0
30–39	352	48.2
40–65	160	21.9
Education (years)		
0–7	415	56.8
7 years or more	316	43.2
Employment status		
Unemployed/other	128	17.5
House maker	165	22.6
Petty trader	192	26.3
Skilled Labor	246	33.7
Marital status		
Single	130	17.8
Married	453	62.0
Not Married	148	20.2
Knowledge of partner's HIV status		
Aware	273	37.3
Unaware	458	62.7
Partner's HIV status		
HIV-negative	105	14.4
HIV-positive	168	23.0
Unknown	458	62.7
Condom use		
Inconsistent	613	83.9
Consistent	118	16.1
Number of Children		
No children	142	19.4
One or more	589	80.6

Table 2

CHARACTERISTICS OF ALL CLIENTS WHO REPORTED HAVING SEX IN THE PAST SIX MONTHS BY CONDOM USE AND KNOWLEDGE OF PARTNER'S HIV STATUS

	Number (%) of consistent condom users by	Number (%) of clients aware of partner's HIV status by
	Consistent condom users 118 (16.1)	**Aware 273 (37.3)**
Gender		
Males	38 (16.2)	100 (42.3)
Females	80 (16.1)	173 (34.9)
	Not significant	χ^2=4.0, P<0.05, ϕ = 0.07
Age Range (years)		
18–29	21 (9.6)	76 (34.7)
30–39	63 (17.9)	126 (35.8)
40–65	34 (21.3)	71 (44.4)
	χ^2 = 10.8, P<0.01, Cramer's V=0.12	Not significant
Education (years)		
0–7	72 (17.3)	142 (34.2)
7 or more	46 (14.6)	131 (41.5)
	Not significant	χ^2=4.0, P<0.05, ϕ = −0.07
Employment status		
Unemployed/other	20 (15.6)	48 (37.5)
House maker	27 (16.4)	70 (42.4)
Petty trader	37 (19.3)	66 (34.4)
Skilled Labor	34 (13.8)	89 (36.2)
	Not significant	Not significant
Marital status		
Single	21 (16.2)	26 (20.0)
Married	74 (16.3)	203 (44.8)
Not Married	23 (15.5)	44 (29.7)
	Not significant	χ^2=31.2, P<0.001, Cramer's V=0.21
Knowledge of partner's HIV status		
Aware	62 (22.7)	

	Number (%) of consistent condom users by	Number (%) of clients aware of partner's HIV status by
	Consistent condom users 118 (16.1)	**Aware 273 (37.3)**
Unaware	56 (12.2)	
	χ^2 = 13.8, P<0.001, ϕ = −0.14	
Partner's HIV status		
HIV-negative	45 (26.8)	
HIV-positive	17 (16.2)	
Unknown	56 (12.2)	
	χ^2 = 19.2, P<0.001, Cramer's V=0.16	
Number of Children		
No children	21 (14.8)	49 (34.5)
One or more	97 (16.5)	224 (38.0)
	Not significant	Not significant

[2]Only consistent condom users (n = 118) and clients who are aware of their partner's HIV status (273) are reported in this table.

χ^2 = Chi square

ϕ = Phi

Table 3

LOGISTICS REGRESSION MODELS OF CONSISTENT CONDOM USE (LOWER AND UPPER 95% LIMITS)

Explanatory variable	Unadjusted odds ratio (95% CI)	Adjusted odds ratio (95% CI)
Gender		
Males	1	1
Females	1.00 (.65, 1.52)	1.34 (.80, 2.23)
Age Range (years)		
18–29	1***	1**
30–39	2.05 (1.2, 3.47)**	2.55 (1.43, 4.55)**
40–65	2.54 (1.41, 4.58)**	3.45 (1.74, 6.86)**
Education (years)		
0–7	1	1
7 or more	.81 (.54, 1.21)	.84 (.54, 1.29)
Employment status		
Unemployed/other	1	1
House maker	1.05 (.56, 1.98)	1.03 (.49, 2.16)
Petty trader	1.28 (.71, 2.34)	1.28 (.68, 2.4)
Skilled Labor	.86 (.47, 1.57)	.86 (.46, 1.60)
Marital status		
Single	1	1
Married	1.01 (.59, 1.72)	.59 (.31, 1.10)
Not Married	.95 (.50, 1.82)	60 (.29, 1.24)
Knowledge of partner's HIV status		
Aware	1***	1*
Unaware	.47 (.31, .70)	.43 (.28, .66)***
Number of Children		
No children	1	1
or more	1.13 (.68, 1.89)	.85 (.47, 1.54)

* p value <.05

** p value <.01

*** *p* value <.001

CI = Confidence Interval

Table 4

LOGISTICS REGRESSION MODELS OF BEING AWARE OF PARTNER'S HIV STATUS (LOWER AND UPPER 95% LIMITS)

Explanatory variable	Unadjusted odds ratio (95% CI)	Adjusted odds ratio (95% CI)
Gender		
Males	1	1
Females	.72 (.53, .99)*	.72 (.49, 1.05)
Age Range (years)		
18–29	1	1
30–39	1.05 (.74, 1.49)	.86 (.58, 1.29)
40–65	1.50 (.98, 2.28)	1.10 (.67, 1.80)
Education (years)		
0–7	1	1
7 or more	1.36 (1.01, 1.84)*	1.52 (1.10, 2.12)*
Employment status		
Unemployed/other	1	1
House maker	1.23 (.76, 1.97)	1.52 (.87, 2.66)
Petty trader	.87 (.55, 1.34)	1.07 (.65, 1.76)
Skilled Labor	.95 (.61, 1.47)	.89 (.55, 1.42)
Marital status		
Single	1**	1**
Married	3.25 (2.03, 5.19)**	3.38 (1.99, 5.74)**
Not Married	1.70 (.97, 2.95)	1.88 (1.03, 3.43)*
Number of Children		
No children	1	1
One or more	1.17 (.79, 1.71)	.78 (.50, 122)

* p value <.05

** *p* value <.001

CI = Confidence Interval