Knowledge of HIV Status and Sexual & HIV Risk Behaviour in Botswana:

Does knowing one's HIV Status Translate into Reduced Sexual and HIV Risk Behaviour?

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Introduction & Background

This paper investigates the impact of knowledge of HIV status on sexual and HIV risk behaviors in Botswana. Botswana's HIV/AIDS epidemic is well documented in the literature. According to the latest available statistics, HIV prevalence in 2012 was 18.5 per cent, compared to 17.6 per cent in 2008 among population aged 18 months and above. Furthermore this prevalence was significantly higher among females (20.8%) than males (15.6%) (CSO,2014). According to the same statistics HIV prevalence amongst the married is higher among the males estimated at 26.3 per cent compared to females at 18.7%; and also higher among never married females 22.0 per cent compared to their male counterparts (12.6 per cent).

In 2002, in response to the escalating infection rates, Botswana enacted one of the first comprehensive and freely accessible HIV prevention, treatment and care programs of most Southern African countries. These programs, which are being delivered through Botswana's highly modern and accessible health infrastructure, are accessible to even the most rural corners of the country. However, despite the high infection rates and highly accessible and free HIV prevention, treatment and care services, the rate of utilization of these services has historically failed to reflect neither the seriousness of the epidemic or the fact that the services are offered free of charge. In response to the poor uptake, in early 2004, the government introduced a policy of routine HIV testing in which all patients are tested for HIV when they visit their doctor unless they opt out. A major aim of this approach to HIV testing, which was formally recommended in June 2004 by UNAIDS and the World Health Organization, was to increase uptake of HIV testing and treatment, and to reduce HIV-related stigma by treating the HIV test like any other routine medical procedure. The level of HIV voluntary counselling and testing in Botswana has increased significantly over the past five years, albeit a slow start. Evidence from the Botswana AIDS Impact Survey III(BAIS III) shows close to three quarters (73.4%) of the population 6 weeks and above participated in HIV testing, of which, over three quarters (79.6%) wanted to know their HIV test results. The data also shows that virtually everyone who undergoes HIV voluntary counselling and testing in Botswana is exposed to pre and post-test counselling. Evidence from BAIS VI shows that almost everyone (97%) of all those who tested during the

year leading to the survey had obtained their HIV test results. Since individuals who tested for HIV in the year leading to the survey were pre and post-test counselled, it stands to reason to expect that their sexual and HIV risk behaviours will be different and probably more safe compared to individuals who have never tested for HIV, and by extension, were not exposed to the benefits of pre and post-test counselling.

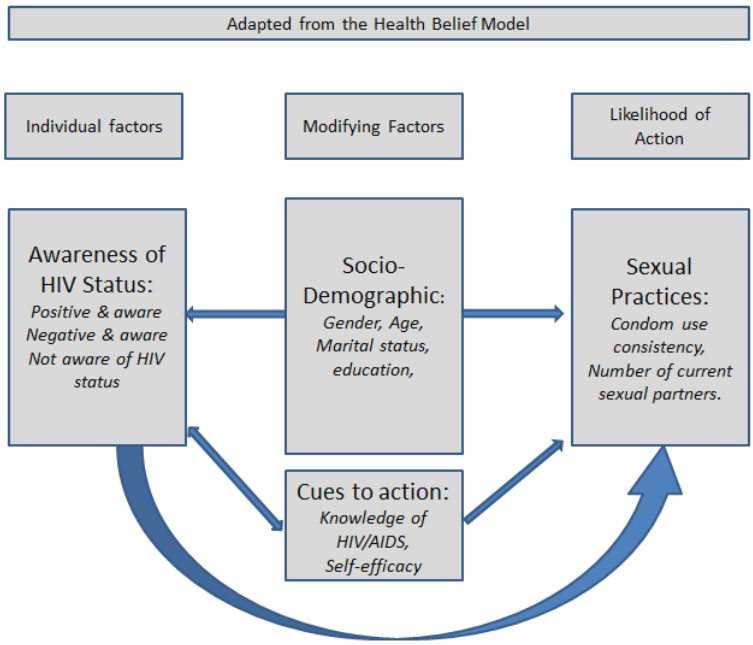
HIV incidence rate (adjusted) was estimated at 1.35 per cent compared to 1.45 per cent in 2008. Available evidence suggests that despite the high prevalence rates which are sustained by the fact that ARV's have been successful in keeping those who are infected, alive for longer, new HIV infections are beginning to abate. The decline in infection rates is generally attributed to HIV /AIDS IEC programs, which have provided accurate information and education on HIV prevention and transmission, as well as the promotion of voluntary and routine HIV counselling and testing. Correct and sufficient knowledge of HIV prevention and transmission increases the efficacy of individuals to engage in behaviour that minimises sexual risk of HIV infection, such as use of condoms and keeping fewer sexual partners, while HIV counselling and testing and subsequent knowledge of one's HIV status empowers individuals to avoid transmission to others (if they are infected) or infection (if they are not infected), as well as inculcation of tolerant and open attitudes and beliefs not only about HIV prevention, treatment and care services, but also attitudes towards people living with and affected by HIV/AIDS (PLWHA).

Most of the available research and literature on knowledge of HIV focuses on the association between knowledge of various aspects of the HIV epidemic and its impact on sexual and HIV risk practices (see DiClimente et al., 1990; McKinnon 1996; Mawar et al., 1997; Bazargan et al., 2000; Fako 2006, Hua et al., 2011). However fewer studies (Selwyn et al., 1989; Kalichman & Rompa, 2000; Kalichman & Simbayi, 2003; Scott-Sheldon et al., 2010) have sought to isolate the impact of HIV testing or knowledge of one's HIV status on sexual and HIV risk behaviours. Thus, the impact of knowledge of one's own HIV status on the sexual and HIV risk behaviours of individuals has not been as extensively researched and therefore understood, compared to the impact that knowledge of various aspects of the HIV has on sexual and HIV risk practices. Voluntary and routine HIV testing are an integral part of Botswana's HIV prevention strategy, thus it become imperative that their impact on sexual and HIV risk behaviours be studies and

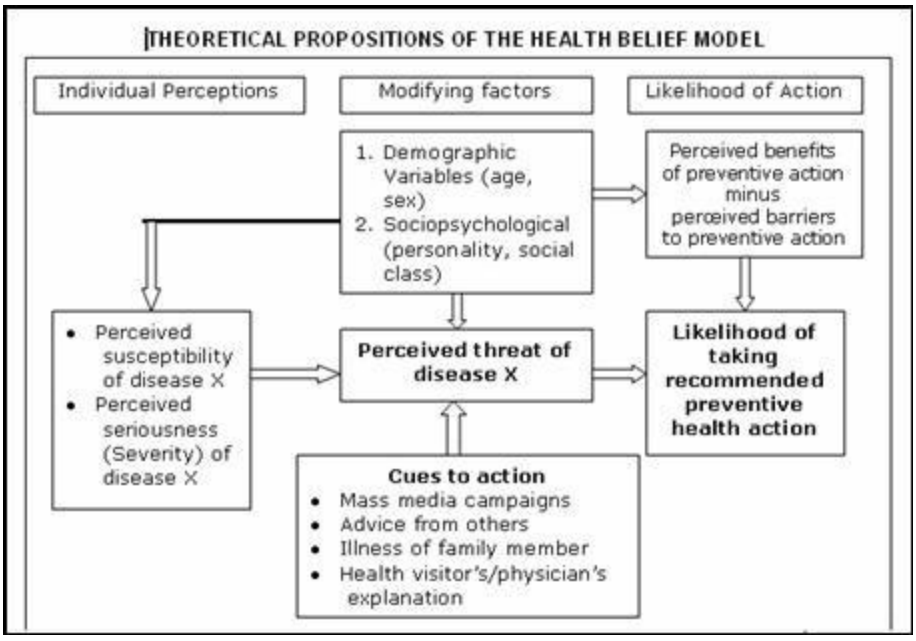
understood. So far there is no evidence of research on the impact of knowledge of HIV status on sexual practices in Botswana. This paper investigates the impact of knowledge of HIV status on respondent's sexual and HIV risk behaviours in Botswana. It seeks to establish if individuals who know their HIV status have significantly different sexual and HIV risk behaviours and practices compared to those who do not know their status.

Theoretical framework

The theoretical framework for the study is derived from the Health Belief Model (Irwin M, 1974) The health belief model is developed to explain health-related behavior change, mainly in regard to the utilisation of health services/programs.



The Health Belief Model (Irwin M, 1974)



There are three main components of the HBM, which are individual perceptions, modifying factors and the component on the likelihood of action. The model indicates that individual perceptions which are perceived susceptibility and perceived seriousness is influenced by demographic variables which in turn influences perceived threat of a particular disease X. Perceived threat of disease X is influenced by demographic variables and Cues to action which include media campaign, advice from others, and illness in the family. Perceived threat of disease X in turn predicts the likelihood of taking up the recommended preventive health action.

In our modified version of the Health Belief Model, there are the three main components as in the Health Belief Model which are individual factors, modifying factors and likelihood of action. Through the model, the researchers argue that individual factors which in this case is the knowledge or awareness of ones HIV status is influenced by demographic variables, cues to action which includes knowledge of HIV and self-efficacy. The adapted Health Belief Model also indicates that there is a direct link between awareness of ones HIV status and sexual practices. The adapted model further indicates that there is a direct link between cues to action and sexual practices.

Data:

Data from the Botswana AIDS Impact Survey VI (2012) are used to investigate the association between knowledge of HIV status and sexual and HIV risk behaviour. The fourth Botswana AIDS Impact Survey (BAIS IV) was a national two stage sample survey design. Data collection started on 21 January 2013 and was completed on 24 April 2013 using portable smart phone tablets/ gadgets instead of the conventional paper based method. The survey estimated Botswana population at 2,045,752 compared to the 2013 adjusted population projection estimates of 2,101,715. This provides a difference of 2.67% (less than 5%), rendering the BAIS IV data a good estimate, credible and representative of Botswana population. Estimates for response rates showed that 83.9% of persons aged 10 to 64 responded to individual questions. Furthermore, 73.4% of population 6 weeks old and above participated in HIV testing. Hence the information provided in the BAIS VI survey is reliable given these good response rates. From the total sample, we selected 7229 males and 7782 females aged 10 and 64 years who reported themselves as sexually active and who had completed the individual questionnaire at the time of the survey.

Methods

Frequencies and cross tabulations with chi-square are used to investigate the bivariate relationship between knowledge of HIV status and sexual and HIV risk behaviours. Binary logistic regression is also used to further explore the impact of knowledge of HIV status on sexual and HIV risk behaviour.

The major independent variable is Knowledge of HIV status, which is divided into three categories, namely: 1) Individuals who know they are HIV positive 2) Individuals who do not know they are HIV positive 3) Individuals who do not know their HIV status. Control variables include age, sex, education, marital status, place of residence, religious affiliation, self-efficacy, and knowledge on HIV/AIDS. Self -efficacy is computed from two variables in the data set which are: Do you believe you can persuade a sex partner to use a condom? And Could you persuade your partner not to have sex if you weren't interested? These variables were dummy coded and added up. The scores that were obtained ranged from 0 to 2. Zero (0) was coded as good self-efficacy, 1 was coded as moderate self-efficacy and 2 was coded as poor self-efficacy.

On the other hand, knowledge on HIV/AIDS was computed from seven (7) questions which are: Can people reduce their chances of getting HIV/AIDS by using a condom correctly every time they have sex?; Is it possible for a healthy looking person to have HIV?; Do you think that a person can get infected with HIV through mosquito bites?; Can people reduce their chances of getting HIV/AIDS by having only one uninfected sex partners who has no other partners?; Can a person get infected with HIV by sharing a meal with a person who has HIV/AIDS?; Can people get HIV because of witchcraft? The result is a score of knowledge on HIV/AIDS which ranges from 0 to 7 with those scoring 0 having the highest knowledge on HIV/AIDS and those scoring 7 having the least knowledge on HIV/AIDS. The variable was recoded to have those that scored zero coded as having sufficient knowledge and those that scored from 1 to 7 as having insufficient knowledge on HIV/AIDS.

The dependent variable are: number of sexual partners during the past year and condom use consistency in the past 12 months.

The independent variable (HIV status knowledge) was derived from two questions. Respondents were asked if they had tested for HIV in the past 12 months and got the results. Assuming that the respondents had not sero converted in the past 12 months then we would assume that the results that they got in the last 12 months would be the same results that they would have gotten in the survey. From this information we're able to distinguish between; 1) Individuals who know they are HIV positive 2) Individuals who know they are HIV positive 3) and individuals who do not know their HIV status.

Table 1: Sample Characteristics

		Number	Per centage
Sex			
	Male	7229	48.2
	Female	7782	51.8
Age			
	10-14	1414	13.2
	15-19	1358	12.7
	20-24	1433	13.4
	25-29	1441	13.5
	30-34	1339	12.5
	35-39	1047	9.8
	40-44	810	7.6
	45-49	641	6.0
	50-54	536	5.0
	55-59	421	3.9
	60-64	270	2.5
Place of residence			
	Cities	1452	9.6
	Towns	3592	23.8
	Urban Villages	3823	25.4
	Rural	6194	41.1
Marital Status			
	Ever Married	1625	19.5
	Never been married	4940	59.3
	Living together	1767	21.2
Education			
	Primary & below	2821	33.9
	Secondary	4042	48.5
	Tertiary	1469	17.6
Religious Affiliation			
	Christian	7264	87.2
	Other none Christian	337	4.0
	No Religion	731	8.8

The table above indicates background characteristics of the sample. The table indicates that just under half (48.2%) of the respondents were males. The table also shows that 65.3 per cent of respondents were aged between 10 and 34 years old and over a third (34.7%) were aged between 35 and 64 years old. Two fifths of the respondents resided in rural settlements (41.1%) whereas about a quarter resided in both towns (23.8%) and urban villages (25.4%) and only a tenth resided in cities (9.6%).

Two thirds of the respondents were never married (59.3%) and a fifth reported to have ever been married (19.5%) and living together (21.2%). Just under half had secondary education, a third had primary education or less (33.9%) and under one fifth had tertiary education (17.6%). A highest majority reported to have been Christians (87.2%), less than one tenth reported to have no religion (8.8%) and 4 per cent believed in other non-Christian religions.

Table 2: Knowledge and selected behavioral variables (dependent variables)

	Number	**Per centage**
Awareness of HIV Status		
HIV Positive & Know	770	12.9
HIV Negative & Know	2964	49.7
Does not know Status	2229	37.4
Number of people had sex with in the past year		
One	4425	85.5
Two or more	750	14.5
Condom use consistency		
Consistent	2963	57.3
Inconsistent	2212	42.7
Knowledge on HIV/AIDS		
Sufficient Knowledge	3527	43.9
Insufficient Knowledge	4505	56.1
Self-Efficacy		
Good self-efficacy	1385	22.4
Moderate self-efficacy	1782	28.8
Poor self-efficacy	3027	48.9

The table above indicates knowledge and other behavioural variables. About half of the respondents were aware that they were HIV negative (49.7%), over a tenth (12.9%) were aware that they were HIV positive and about two fifths were not aware of their HIV status. The table further indicates that over eight in ten had one sexual partner (85.5%) in the past 12 months prior to the survey and 14.5 per cent of respondents had two or more sexual partners in the past 12 months prior to the survey. Two fifths had used condoms inconsistently (42.7%) and under two thirds had insufficient HIV/AIDS knowledge (56.1%). Over a fifth (22.4%) had good self-efficacy, under a third had somewhat moderate self-efficacy (28.8%) and under half (48.9%) had poor self-efficacy.

Table 3: Determinants of knowledge of HIV Status

		Knowledge of HIV status		
		Positive & know	**negative & know**	**Don't know Status**
Sex	Male	8.5	48.4	43.1*
	Female	16.7	50.8	32.5
Age	10-14	0.9	8.0	91.1*
	15-19	1.4	22.1	76.5
	20-24	4.8	68.3	27.0
	25-29	11.0	76.8	12.2
	30-34	22.5	68.2	9.3
	35-39	30.0	60.1	9.9
	40-44	29.3	55.4	15.3
	45-49	29.8	55.6	14.6
	50-54	16.6	61.9	21.5
	55-59	19.1	54.4	26.6
	60-64	8.5	51.1	40.4
Place of residence				
	Cities	13.4	47.0	39.6
	Towns	10.9	52.4	36.6
	Urban Villages	10.8	45.5	43.7
	Rural	13.8	44.5	41.7
Marital Status				
	Ever Married	15.7	64.6	19.7*
	Never been married	8.4	38.3	53.3
	Living together	20.8	58.7	20.5
Education				
	Primary & below	16.1	34.6	49.3*
	Secondary	11.7	46.9	41.4
	Tertiary	5.6	75.1	19.3
Religious Affiliation				
	Christian	12.1	46.8	41.1
	Other none Christian	10.1	48.0	41.9
	No Religion	14.4	50.0	35.6
Total		770 (12.9)	2964 (49.7)	2229 (37.4)

The table above show respondents awareness/knowledge of HIV status by background characteristics. A higher proportion of males were not aware of their HIV status (43.1%) compared to females (32.5%). The table further shows that the proportion who were not aware of their HIV status declines with age from 91.1 per cent among respondents aged 10-14 to76.5 per

cent among respondents aged 15-19 and 9.3 per cent among respondents aged 30-34. The proportion who were not aware of their HIV status then begins to increase with age from 9.9 per cent among respondents aged 35-39 to 15.3 per cent among respondents aged 40-44 and increases further to 21.5 per cent, 26.6 per cent, 40.4 per cent among respondents aged 50-54, 55-59, and 60-64, respectively.

The table further shows that an equal proportion of respondents residing in urban villages (43.7%), rural villages (41.7%) and Cities (39.6%) were not aware of their HIV status. A somewhat smaller proportion of respondents residing in towns (36.6%) were not aware of their HIV status. Over half of respondents who were never been married (53.3%) were not aware of their HIV status compared to a fifth of respondents who have ever been married (19.7%) and those that are living together (20.5%).

Proportion who were not aware of their HIV status decreases with level of education from 49.3 per cent among respondents with primary education or below to 41.4 per cent among respondents with secondary education to 19.3 per cent among respondents with tertiary education. Almost the same proportions of Christians (41.1%) and other non-Christian religions (41.9%) were not aware of their status and 35.6 per cent of respondents with no religion were not aware of their status.

Table 4 Distribution of sexual risk behaviours by awareness of HIV status

	Had sex with Two or more people In the past 12 months	**Used condom inconsistently in the past 12 months**
Awareness of HIV status		
HIV+ & Know	9.0*	30.6*
HIV- & Know	16.3	46.9
Don't Know Status	18.6	42.2
Total	*15.4*	*43.3*

The table above indicates the distributions of sexual risk behaviours by awareness of HIV status. The table indicates that 15.4 per cent of respondents had two or more sexual partners in the past 12 months prior to the survey. However, a higher proportion of respondents who were not aware of their status (18.6%) had two or more sexual partners in the past 12 months prior to the survey followed by respondents who were aware that they were HIV negative (16.3%) and respondents who were aware that they were HIV positive (9.0%). The table further shows that over two fifths of the respondents used condoms inconsistently (43.3%), however, a higher per centage of

respondents who were aware that they were HIV negative did not use condoms consistently in the past 12 months prior to the survey followed by 42.2 per cent of respondents who were not aware of their HIV status and 30.6 per cent of respondents who were aware that they were HIV positive.

Table 7: Logistic Regression Odds Ratios showing the likelihood of using condoms inconsistently during the year leading to the survey

	Model 1		Model 2		Model 3	
Knowledge of HIV status	**Exp(B)**	**sig**	**Exp(B)**	**sig**	**Exp(B)**	**sig**
Positive & Know	0.604	0.000	0.441	0.000	0.509	0.000
Negative & know	1.210	0.048	1.065	0.542	1.152	0.217
Don't know status	1.000		1.000		1.000	
Sex						
Male			0.788	0.002	0.756	0.001
Female			1.000		1.000	
AGE						
10-14			0.122	0.082	0.124	0.094
15-19			0.167	0.000	0.215	0.000
20-24			0.230	0.000	0.290	0.001
25-29			0.350	0.003	0.419	0.024
30-34			0.327	0.002	0.409	0.020
35-39			0.330	0.002	0.410	0.020
40-44			0.353	0.003	0.433	0.029
45-49			0.252	0.000	0.309	0.003
50-54			0.352	0.004	0.457	0.048
55-59			0.470	0.044	0.604	0.218
60-64			1.000		1.000	
Place of residence						
Cities			0.824	0.135	0.877	0.330
Towns			0.735	0.001	0.762	0.007
Urban Villages			0.658	0.000	0.706	0.001
Rural			1.000		1.000	
Marital Status						
Ever Married			1.620	0.000	1.558	0.000
Never married			0.545	0.000	0.547	0.000
Living together			1.000		1.000	
School Attendance						
Primary & below			1.163	0.221	1.041	0.761
Secondary			0.856	0.104	0.806	0.030
Tertiary or Higher			1.000		1.000	
Religious Affiliation						
Christian			1.066	0.603	1.119	0.388
Other none Christian			1.679	0.011	1.698	0.013
No Religion			1.000		1.000	
Number of current sexual partners						
One					0.607	0.000
Two or more					1.000	
Self-Efficacy						
Low					4.840	0.000
Medium					1.400	0.000
High					1.000	
Knowledge on HIV/AIDS						

Sufficient Knowledge	1.157	0.069
Poor Knowledge	1.000	

Table 7 shows Logistic Regression Odds Ratios showing the likelihood of using condoms inconsistently during the year leading to the survey. Model 1 is the gross effects model and only includes the dependent and the independent variables. Model 2 and model 3 are net effects models. Model 2 includes the dependent variable, independent variable and controlled for background variables. Model 3 includes the dependent variable, independent variable, and is controlled for background variables, self-efficacy, knowledge on HIV/AIDS, other sexual behavioural variables (number of current sexual partners).

The gross effects model indicates that respondents who were aware that they were HIV positive were 66 per cent less likely (OR=0.604, sig=0.000) to have used condoms inconsistently compared to respondents who were not aware of their HIV status. Respondents who were aware that they were HIV negative were 21 per cent more likely (OR=1.210, sig=0.048) to have used condoms inconsistently compared to respondents who were not aware of their HIV status. The net effects model indicate that respondents who were aware that they were HIV positive were almost twice less likely (OR=0.509, sig=0.000) to have used condoms consistently compared to respondents who were not aware of their status.

Results in model 2 indicate that males were 27 per cent less likely (OR=0.788, sig=0.002) to have used condoms inconsistently compared to females. However model 3 which not only controls for background characteristics but also controls for self-efficacy, knowledge on HIV/AIDS, and number of current sexual partners show that males were 32 per cent less likely to have used condoms inconsistently (OR=0.756, sig=0.001). Model 3 also indicate a general decline of odds by age. For instance, model 3 indicates that respondents aged 15-19 were almost 5 times less likely (OR=0.215, sig=0.000) to have used condoms inconsistently compared to respondents aged 60-64, the odds then decline slightly to OR=0.290, sig=0.001 (3.448 times less likely) for respondents aged 20-24, then decline further to OR=0.433, sig=0.029 (2.039 times less likely) for respondents aged 40-44.

Model 2 of the table indicate that respondents residing in towns were 1.361 times less likely to have used condoms inconsistently compared to respondents who resided in rural villages (OR=0.735, sig=0.001) and respondents residing in urban villages were 52 per cent less likely to have used condoms inconsistently compared to respondents who resided in rural villages (OR=0.658, sig=0.000). On the other hand, Model 3 indicate that respondents residing in towns were 31 per cent (OR=0.762, sig=0.007) less likely to have used condoms inconsistently compared to respondents residing in rural villages and respondents residing in urban villages were 42 per cent (OR=0.706, sig=0.001) less likely to have used condoms inconsistently compared to respondents residing in rural villages. For both model 2 and 3 the results show that

there is no significant difference in condom use consistency between people residing in Cities and those residing in rural villages.

Model 2 of the table shows that respondents who have never been married were 83 per cent less likely (OR=0.545, sig=0.000) to have used condoms inconsistently compared to respondents who were cohabiting. The model further shows that respondents who have ever been married were 62 per cent more likely to have used condoms inconsistently compared to respondents who were cohabiting. Model 3 indicate that respondents who have ever been married were 56 per cent (OR=1.558, sig=0.000) more likely to have used condoms inconsistently and respondents who have never been married were 83 per cent (OR=0.547, sig=0.000) less likely to have used condoms inconsistently compared to respondents who were cohabiting.

Model 2 of the table indicate that there was no association between condom use consistency and level of education. Model 3 indicates that respondents with secondary education were 24 per cent (OR=0.806, sig0.030) less likely to have used condoms inconsistently and there was no significant difference between respondents with primary education or less and respondents with tertiary education.

Model 3 indicates that respondents who believed in other non-Christian religions were 70 per cent more likely (OR=1.698, sig=0.013) to have used condoms inconsistently compared to respondents who believed in no religion and there was no difference between respondents who believed in Christianity and respondents who believed in no religion. The results show that respondents who had one partner were 65 per cent (OR=0.607, sig=0.000) less likely to have used condoms inconsistently compared to respondents who had two or more sexual partners. The table indicate that respondents with low self-efficacy and respondents with somewhat moderate self-efficacy were 5 (OR=4.840, sig=0.000) times and 1.4 (OR=1.400, sig=0.000) times more likely to have used condoms inconsistently compared to respondents with high self-efficacy.

Table 8: Logistic Regression Odds Ratios showing the likelihood of having two or more sexual partners in the past 12 months leading to the survey

	Model 1		Model 2		Model 3	
Knowledge of HIV status	**Exp(B)**	**sig**	**Exp(B)**	**sig**	**Exp(B)**	**sig**
Positive & Know	0.431	0.000	0.924	0.701	0.972	0.892
Negative & know	0.855	0.204	1.146	0.327	1.132	0.378
Don't know status	1.000		1.000		1.000	
Sex						
Male			3.659	0.000	3.775	0.000
Female			1.000		1.000	
AGE						
10-14			24.373	0.011	23.782	0.012
15-19			4.055	0.069	3.866	0.081
20-24			4.719	0.038	4.323	0.052
25-29			4.284	0.052	3.764	0.078
30-34			4.195	0.055	3.664	0.084
35-39			2.738	0.179	2.454	0.235
40-44			2.977	0.146	2.581	0.210
45-49			2.197	0.310	1.998	0.376
50-54			1.540	0.558	1.311	0.736
55-59			1.718	0.506	1.401	0.681
60-64			1.000		1.000	
Place of residence						
Cities			1.362	0.081	1.384	0.069
Towns			1.364	0.022	1.423	0.010
Urban Villages			1.516	0.002	1.569	0.001
Rural			1.000		1.000	
Marital Status						
Ever Married			0.704	0.061	0.661	0.029
Never married			1.933	0.000	2.044	0.000
Living together			1.000		1.000	
School Attendance						
Primary & below			0.673	0.033	0.668	0.035
Secondary			0.935	0.586	0.970	0.808
Tertiary or Higher			1.000		1.000	
Religious Affiliation						
Christian			0.919	0.597	0.0921	0.608
Other none Christian			1.320	0.264	1.255	0.365
No Religion			1.000		1.000	
Condom uses consistency						
Consistent					0.579	0.000
Inconsistent					1.000	
Self-Efficacy						
Low					0.682	0.010
Medium					1.108	0.369
High					1.000	
Knowledge on HIV/AIDS						
Sufficient Knowledge					0.899	0.309
Poor Knowledge					1.000	

The table above shows Logistic Regression Odds Ratios showing the likelihood of having two or more sexual partners in the past 12 months leading to the survey. Model 1 of the table indicate that respondents who were aware that they are HIV positive were more than two times (OR=0.431 , sig=0.000) less likely to have had two or more sexual partners in the past 12 months compared to respondents who did not know their HIV status. There was no difference between respondents who were aware that they were HIV negative and those that did not know their status in terms of the number of sexual partners in the past 12 months. Model 2 and model 3 of the table did not show any significant difference between respondents who were aware that they were HIV positive, aware that they were HIV negative and those that were not aware of their HIV status.

Model 2 (OR=3.659 , sig=0.000) and model 3 (OR=3.775 , sig=0.000) indicate that males were almost 4 times more likely to have had two or more sexual partners in the past 12 months compared to females. Model 2 of the table indicate that respondents who were 20-24 years old were almost 5 times more likely (OR=4.719, sig=0.038) to have had two or more sexual partners compared to respondents who were 60-64 years old. The model also indicate that there was no significant difference between respondents of other age groups and respondents aged 60-64 in terms of number of partners in the past 12 months. Model 3 of the table indicate that respondents who were aged 10-14 years old were almost 24 times (OR=23.782, sig=0.012) more likely to have had two or more sexual partners in the past 12 months compared to respondents who were 60-64 years old. The model also indicate that there was no significant difference between respondents of other age groups and respondents aged 60-64 in terms of number of partners in the past 12 months.

Model 2 and model 3 indicate that there was no significant difference between respondents who resided in cities and respondents who resided in rural villages in terms of number of partners in the past 12 months. Model 2 (OR=1.364 , sig=0.022) and model 3 (OR=1.423 , sig=0.010) indicate that respondents who resided in towns were almost 40 per cent more likely to have had two or more sexual partners in the past 12 months compared to respondents who resided in rural villages. Model 2 (OR=1.516 , sig=0.002) and model 3 (OR=1.569 , sig=0.001) also indicate that respondents who resided in urban villages were more than 50 per cent more likely to have had two or more sexual partners in the past 12 months compared to respondents who resided in rural villages. Model 2 (OR=1.933, sig=0.000) and model 3 (OR=2.044, sig=0.000) show that respondents who have never been married were about two times more likely to have had two or more sexual partners in the past 12 months compared to respondents who are living together. Model 3 further indicate that respondents who have ever been married about 50 per cent less likely (OR=0.661, sig=0.035) to have had two or more sexual partners compared to respondents who were living together.

Model 2 (OR=0.673, sig=0.033) and model 3 (OR=0.668, sig=0.035) indicate that respondents who had primary education or lower were about 50 per cent less likely to have had two or more sexual partners in the past 12 months compared to respondents who have tertiary education. The table indicates that there was no significant association between religious affiliation and number of sexual partners in the past 12 months. Respondents who used condoms consistently were 73 per cent less likely (OR=0.579, sig=0.000) to have had two or more sexual partners in the past 12 months compared to respondents who did not use condoms consistently. Respondents who had low self-efficacy were 47 per cent less likely (OR=0.682, sig=0.010) to have had two or more sexual partners compared to respondents who had high self-efficacy.

Discussions & Conclusions

This study investigated individual HIV knowledge status and HIV risky sexual behavior. From the 2007 Botswana Family Health Survey, we discovered a variety of important results. First, among sexually active men and women aged 10-64, the findings show that a higher proportion of respondents reported to be HIV negative and knew their status and this is a very encouraging result. However, basic knowledge of HIV is reported to be insufficient and poor self-efficacy. As expected a higher proportion of males were not aware of their HIV status compared to females. Concerning age and knowledge of one's HIV status, the results showed that the proportion of respondents who were not aware of their HIV status declines with age up until age 34 and then increases with age. An almost equal proportion of respondents regardless of type of locality were not aware of their status. A large proportion of those who are never married were not aware of their HIV status.

Promotion of accurate and sufficient knowledge of HIV prevention and transmission and HIV VCT are key components of Botswana's HIV/AIDS prevention strategy. While the association between knowledge of HIV prevention and transmission has subjected to empirical research, so far there is a dearth of knowledge on the impact of VCT on sexual and HIV risk behaviours. The results of this analysis suggest that knowledge of one's HIV status, just like knowledge of HIV transmission and prevention reduces the likelihood of risky sexual and HIV risk practices. Specifically, knowing that one was HIV positive or negative, was associated with a reduction in the likelihood of having sex with two or more people during the year leading to the survey; reporting multiple concurrent partnerships and being inconsistent condom user. The results of this analysis suggest that the promotion of HIV VCT, in addition to provision of information on HIV prevention and transmission, has the potential to reduce sexual and HIV risk behaviours in Botswana. Despite the contribution of knowledge of HIV status to the reduction in sexual and HIV risk behaviour, there are however, worrying signs of potential for sexual dis-inhibition associated with knowledge of an HIV negative status as shown by the slight but statistically significant tendency to report more sexual partners during the year leading to the survey and multiple concurrent sexual partnerships. Thus, any efforts to promote safe sexual and HIV risk

behaviours, should constantly be alert of the potential towards sexual dis-inhibition associated with other HIV risk mitigation strategies such as safe male circumcision.

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