

HIV/AIDS Stigma and Discrimination in Nigeria

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1. Introduction

Nigeria, the largest and most populous country in sub-Saharan Africa, is one of the countries highly affected by the HIV/AIDS scourge. HIV/AIDS have spread rapidly since the first case was diagnosed 1986 with the adult HIV prevalence has increasing from 0 percent in 1986 to 1.8 percent in 1991 to 4.5 percent in 1996 to 5.4 percent in 1999 to 5.8 percent in 2001 (NASCP, 2003). The result of the current surveillance indicates that more than 3.5 million Nigerians are infected with HIV¹. As the burden of disease increases within a community, individuals are faced with denial, stigma and discrimination. Mann, (1987) identified three phases of the epidemic, the HIV epidemic, the AIDS epidemic and the epidemic of Stigma, Discrimination and Denial of which the later is least understood part of the epidemic. Nigeria appears to be in between the full AIDS epidemic phase and the Stigma and discrimination phase. HIV/AIDS-related stigma and discriminatory conduct provide opportunities for spreading of the epidemic². It undermines prevention, voluntary counseling and testing³, care and support and also increases the impact of the infection on individuals, families, communities and nations (Population Council, Horizons, 2002). The stigma and discrimination attached to being diagnosed with AIDS is far greater and significantly different than that linked to being diagnosed with other illnesses such as cancer, and psychiatric disorder. This may be due to the fact that HIV is primarily transmitted through sexual intercourse and people sometimes erroneously link HIV infection with promiscuity. Heterosexual intercourse remains a major route of HIV/AIDS transmission in three-quarters of HIV cases in developing countries (d’Cruz-Grote, 1996) and this is also applicable in Nigeria. With the prevalence rates being highest among young adults aged 20 -24 years in Nigeria, it implies that a significant proportion of adults and young people in Nigeria engage in unprotected and risky sexual acts. This is further compounded by the fact that the age at first marriage has risen (NPC, 2000) due to the longer time spent in school hence more youth become sexually active before marriage, many of them in their teenage years. Increasing poverty and the power imbalance that is characteristic of sexual relations among men and women in patriarchal societies sustain the epidemic of HIV/AIDS in the sense that there exists exploitative sexual relationships particularly between adult males and younger females who may not be able to negotiate for safer sexual encounters. (Orubuloye, et al.; 1993, Weiss, et. al., 2000; Ajuwon, et. al., 2001).

People's attitudes are shaped by what they know, what they hear, what the social norms and beliefs are and their exposure to new information or knowledge. Aside from the news or media reporting, the problems that face HIV/AIDS patients or those suspected of having HIV/AIDS in Nigeria have not been investigated extensively through scientific research or study. It is quite evident from studies done elsewhere that people with HIV/AIDS are unfairly treated and/or discriminated against because of their actual or suspected HIV/AIDS status⁴. Discrimination against people with or suspected of having HIV/AIDS is not just violation of their human rights; it is also an ineffective public health measure. The national policy on HIV/AIDS is aimed at controlling the spread of the infection, and to mitigate its impact to the point where it is no longer of public health, social and economic, such that all Nigerians will be able to achieve socially and economically productive lives free of the disease and its attendants impact (FGN, 2003). Therefore, there is need to address HIV/AIDS-related stigma and discrimination before the goal and objectives of the national policy on HIV/AIDS can be achieved.

People living with HIV/AIDS may become implicitly associated with stigmatized behaviour, regardless of how they actually contracted the infection. PLWHAs are stigmatized, ostracized, rejected, and shunned, and may experience sanctions, harassment, and even violence because of their infection or association with HIV/AIDS (Busza, 1999). Discrimination may stem from fear due to lack of knowledge about how HIV/AIDS can or cannot be transmitted. It should be emphasized that illness-related stigma and discrimination are often rooted in social learned attitudes. Hence, this paper used social variables to examining the HIV/AIDS related stigma and discrimination in Nigeria and the factors associated with it.

Individuals with HIV/AIDS are stigmatized because their illness is: (1) a life-threatening disease; (2) people are scared of contracting HIV; (3) tainted by a religious belief as to its immorality and/or thought to be contracted via morally-unsanctioned behaviour (such as promiscuity or deviant sex) and therefore, thought to represent a character blemish and contraveners deserves to be punished; (4) perceived to be contagious and threatening to the community; (5) associated with an undesirable and an unaesthetic fear of death; and (6) not well-understood by the lay community and viewed negatively by healthcare providers (Alonzo, 1995). The present paper adopted a similar framework in studying the factors influencing discriminatory attitudes towards people with HIV/AIDS in Nigeria.

The primary objective of this paper was to examine the factors associated with, discriminatory attitudes towards HIV/AIDS patients Nigeria. The discrimination and stigmatization are measured in the context of negative attitudes of the people of Nigeria towards people living with HIV/AIDS, that is whether or not people are willing to care for a family

member (male or female) with HIV/AIDS; an HIV-positive office colleague should or should not be allowed to continue working; whether or not they would buy food or vegetables from an HIV-positive shopkeeper. Selected socio-demographic variables of sample population are examined in relation to the influence of the six measures of discriminatory attitudes and stigmatization. Such information can help improve the design of policy and programme advocacy interventions and campaigns to reduce effects of HIV-related stigma and reduce the spread of HIV among the general population.

2 Data and Methods

The empirical findings presented in this article are based on data from the National HIV/AIDS and Reproductive Health Survey (NARHS), which was undertaken by the Federal Ministry of Health in collaboration with Society for Family Health and other development partners. The survey was intended to provide information of sexual and reproductive health in Nigeria, and the factors that influence them. In addition, the survey intended to provide data regarding the impact of ongoing HIV and family planning behaviour change interventions. The survey was a nationally representative probability sample covering both urban and rural households. Survey respondents included females aged 15-49 years and males aged 15-64 years.

A multi-stage probability sampling procedure was adopted to select respondents for the study, using the sampling frame of all rural and urban communities in Nigeria developed and maintained by the National Population Commission (NPC). Data were collected in all the 36-States and FCT in March 2003. In each state, rural and urban localities were randomly selected at the first stage, and enumeration areas were selected within selected rural and urban localities at the second stage. At the last stage, all households in the one hundred and eleven clusters selected were identified and listed. Households and individuals were randomly selected from the household listing for interview. It should be emphasised that within a State, all eligible persons irrespective of place of residence had equal probability of being included in the final sample. Thus the sample selected was self-weighted within state. In order to increase the level of precision of the index obtainable from the study at state level analysis, sample sizes in states with proportional allocation less than 250 were boosted thus yielding a study size of 10,258. But, a total of 10,090 respondents were successfully interviewed, with a non-response rate of 1.6 percent. Among the 10,090 females and males interviewed, 8,841 respondents reported ever heard of HIV/AIDS and the analysis here is restricted to this sub-group (*****).

Three HIV-related stigmatization and discriminatory attitudes and their associations with several background characteristics and cognitive measure are considered in the analysis.

Stigma and Discrimination measures: The HIV-related stigma and discrimination was measured with three questions about respondents' discriminatory attitudes towards people living with HIV/AIDS: should not allow a child with HIV/AIDS to attend school, should not allow a colleague in the office or workplace with HIV/AIDS to work and unwillingness to make public knowledge a family member with HIV. The questions had four categories of responses as follows; yes, no, don't know and no-response; however, respondents who reported 'don't know' and "no-response" were not included in the final regression analysis because of the difficulty in re-classifying them as either yes or no.

Descriptive and multivariate methods of analysis were employed. Descriptive analyses were undertaken to identify patterns of associations between respondents' characteristics and stigmatization and discrimination measures. This approach indicates the "gross effects" of the background characteristics on the six measures of HIV-related stigmatization and discrimination. Logistic regression analysis was then used to determine the "net effects" of the explanatory variables on the probability of expressing negative attitudes toward people living with HIV/AIDS. Each of the six dependent variables takes a value of 1 if respondent response implied negative attitude towards people living with HIV/AIDS and 0 if otherwise. Logistic regression model was used because it provides an interpretable linear model for a binary dependent variable and also allows the testing of the significance of a given predictor while controlling for all other predictors in the model. The explanatory variables include individual background and cognitive characteristics, namely gender, exposure mass media, place of residence, region of residence, religion, education and age, knowledge of HIV/AIDS (transmission and prevention).

3. RESULTS

3.1. RESPONDENTS' BACKGROUND CHARACTERISTICS

The study was undertaken in the 36 States including the Federal Capital Territory (FCT) and 10,090 respondents (women and men) were interviewed. The basic socio-demographic characteristics of the respondents are presented in Table 1, which shows that 40.4% were aged less than 25 years, 28.0% were aged 25-34 years, and 31.5% were aged 35 years or older. The median age of the respondents at the time of interviews was 27 years. The study revealed that the median age of the female respondents was 26 years compared with 29 years for the male respondents. This implies that male respondents were three years older than the female

counterparts. About two-thirds of the respondents had formal education while 33% and 8.8% of respondents had secondary and post-secondary education respectively. With respect to the gender difference, the table indicates that males are more likely to be educated than their female counterparts. For instance, 71.4 percent of male respondents had attended formal school as compared with 57.1 percent of the female respondents, thereby reflecting the gender variation in the literacy level.

Muslims and Christians constituted majority of the sample population. The distribution showed that 47.2% were Muslims and 2.6 percent were adherents to traditional faiths. Christianity was further segregated into two groups: Protestants and Catholics. Protestants constituted the majority (36.1%) of Christian respondents, while the remainders were Catholics (14.1%). The distribution of the respondents by region of residence indicated that 54.4 percent resided in northern region, while 45.7% were southern region dwellers. The distribution of the sample by gender did not vary much variation according to religious affiliation and region of residence.

The findings revealed a high exposure to electronic media with half of the respondents listening to radio and more than a quarter watching television daily although a fifth had never listened nor watched the television. There was some gender variation in the listenership with almost two-thirds of men reporting listening to the radio every day as against 40.5 percent of women

3.2. STIGMA AND DISCRIMINATORY ATTITUDES

Table 2 shows the percentage distribution by sex of the 8,852 who have heard of HIV/AIDS and expressed discriminatory attitudes towards people living with HIV/AIDS. About two-fifths of the respondents would make it secret if a member of their family became ill with HIV/AIDS. This is high and the finding suggests that significant percentage HIV/AIDS patients may not receive care from their relatives and could face persecution. The table further reveals that more females would want it sero-status of the family member that became ill with HIV/AIDS remain secret (female = 42.9% vs. male 39.0). Overall, a high proportion of the respondents expressed unenthusiastic or off-putting attitudes towards a child or an office colleague with HIV/AIDS. About three-fifths (63%) reported that an office colleague who became sick with HIV/AIDS should not be allowed to continue to work, while 64.3% percent reported that a child with HIV/AIDS should not be allowed to school, even when he or she is not sick. The prevalence of HIV/AIDS-related stigma was higher among women than men. Contrary to usually expressed opinion and belief that women are more likely to be compassionate than men, the findings

indicate that Nigerian men may have more compassion than their female counterparts towards people living with HIV/AIDS.

3.3. PREDICTORS OF HIV/AIDS-RELATED STIGMA AND DISCRIMINATORY ATTITUDES

Table 3 shows the relationship between discriminatory attitudes towards a student with HIV/AIDS and selected characteristics of men and women. The findings revealed that a significant proportion of 15 -24 year old male respondents more than the older age group (35 years and above) reported a higher level of discriminatory attitudes to a student child with HIV/AIDS being allowed in school even though he or she is not sick. For instance, respondents aged 15-24 years old were 16 percent more likely than older males (35 years and above) to indicate that a child with HIV/AIDS should not be permitted to attend school with other children despite the fact that she or he is not sick. Educated populations with presumably greater knowledge of the disease are expected to be less hostile to people living with or affected by HIV/AIDS and the results conform to this expectation. For both sexes, the discriminatory attitudes towards a child with HIV/AIDS reduced with increasing levels of education.

Furthermore, the findings indicate that populations in the southern regions especially in the South-east and south-west have higher likelihood of discriminatory attitudes towards a child with HIV/AIDS attending school than their counterparts from the north-central region. The association was significant for men residing in North-east, North-west, South-east and South-west and only for women residing in the South-east and South-west zones. The study revealed that for both sexes their religious affiliations were not related to discriminatory attitudes towards a child with HIV/AIDS, although, Catholics were less likely to exhibit any repressive attitudes towards allowing a child with HIV/AIDS in school with other children as compared with respondents who were adherents of traditional faiths. The results revealed that males and females who were exposed to radio and television once a while were more likely to exhibit stigmatizing attitudes than their counterparts who listened to radio once week and television daily respectively. Males who knew somebody with HIV/AIDS were more likely to report that a child with HIV/AIDS should not be allowed to attend school with other children. While with females the converse was the case; females who knew someone with HIV/AIDS were less likely to say that a child with HIV/AIDS should not be allowed to attend school.

A statistically significant ($p < .01$) proportion of men and women who believed that they could get HIV infection sharing of a meal with HIV/AIDS patient were 60 and 50 percent respectively were more likely than those who believed otherwise to report that a child with an

HIV/AIDS should not be allowed to attend school with other children. Among female respondents, those who believed a person could get HIV/AIDS infection through witchcraft were 23 percent more likely than those who believed otherwise to state that a child with HIV/AIDS should not be allowed to attend school and significant at 5% level. Similarly for both males and females, those who believed that mosquito could transmit HIV/AIDS were more likely than those who believed otherwise to indicate that a child with HIV/AIDS should not be allowed to attend school, For instance, men who believed a person could get HIV/AIDS through mosquito bites were 40 percent more likely than those who believed otherwise to indicate that a child with HIV/AIDS should not be allowed to attend school with other children. Males and females who believed that a healthy looking person could be infected with HIV/AIDS were 37 and 20 percents less likely than those believing otherwise to report that a child with HIV/AIDS should not be allowed in school.

The factors influencing discriminatory attitudes towards an office colleague with HIV/AIDS are shown in Table 4. The results showed that educated male respondents were less likely than uneducated to report that a colleague in the office with HIV/AIDS should not be allowed to work although he or she is not sick. For instance, males with tertiary education were 59 percent less likely than those with secondary education to indicate that a colleague in the office who has HIV/AIDS should not be allowed to continue work. Among the female respondents, those with Qur-anic education 74 percent were more likely than those with secondary education to say that their office mate with HIV/AIDS should not be allowed to continue work, although he or she is not sick. It should be noted that all categories of education were significantly related to the discriminatory attitudes towards a colleague in the office except men with Qur'anic education that was not significantly related to those with secondary education in term of their discriminatory behaviour.

Table 4 also revealed that male respondents aged 15-24 were 21 percent more likely than older (35 years and above) male to indicate that a colleague in the office with HIV/AIDS should not be allowed to work despite the fact that is not sick. Similarly, younger female respondents are more likely to have discriminatory attitudes towards a colleague in the office than their older counterparts. The relationship was statistically significant at 5% level among those aged 15-24 years. As can be seen in Table 4, the odds of males reporting discriminatory attitudes towards a colleague working in the same office were 56 percent and 81 percent higher among the respondents living in the South-east and South-west than those residing in the north-central region. It is expected that population exposed to media messages are likely to have positive attitudes towards people living with HIV/AIDS, the result in table 4 confirmed the assumption.

For instance, males who reported listening to radio everyday were 26 percent less likely to harbour stigmatizing thoughts than those who listened to radio once a week; while watching of television was significantly related with the discriminatory attitudes towards an HIV positive colleague. Furthermore, a discriminatory attitude towards a colleague who has HIV/AIDS was significantly related to the belief that HIV/AIDS can be contacted by sharing a meal with an infected person, through witchcraft and mosquito bites. A statistically significant proportion ($p < .05$) of male and female respondents who knew that a healthy looking person could be HIV positive were 37 and 20 percent less likely to exhibit stigmatizing behaviour to a colleague who had HIV/AIDS.

Also a significant proportion of female respondents who had knowledge of someone who has the AIDS virus or who has AIDS was associated with negative attitudes towards people with HIV/AIDS although, this association did not apply to male respondents.

Stigma within the family, or directed toward an affected family, can be debilitating and may be hard to address. By inhibiting open and honest communication, stigma makes disclosure within the family difficult and without disclosure, prevention and care is almost impossible. Within the African context, families and communities are deeply intertwined therefore both need to be supported in their caring roles in order to reduce the stigma associated with HIV disclosure. Not only does this promote the self-esteem for people living with HIV/AIDS it enables them adopt responsible behaviour that reduces the risk of transmission to their loved one and the community as a whole. The next section examines factors associated with open discussion of HIV/AIDS status of a family member with HIV/AIDS.

Table 5 shows the factors associated with unwillingness of respondents to disclose the HIV/AIDS status of their family member. The finding indicates that the odds of males aged less than 25 years were 25 percent higher than males aged 35 years and older to report that the status of a family member with HIV/AIDS should not be disclosed. Male respondents who believed that a person could reduce HIV/AIDS infection by using condom every time and who had tertiary education compared with those with secondary education were 22 percent and 47 percent respectively more likely to indicate HIV/AIDS status of a family member with HIV/AIDS should remain secret.

Male respondents who believed that a person could reduce HIV/AIDS infection by reducing sexual partners were less likely (23%) and those who believed that a person could get HIV/AIDS through sharing of a meal (26%) were less likely than those who thought otherwise to say that the HIV/AIDS status of a family member with HIV/AIDS should remain secret.

Respondents who had post secondary education and from the north east and north west exhibited higher than normal reticence in encouraging disclosure of the HIV status of a family

member. Religious affiliation, those who believed that HIV/AIDS could be transmitted through witchcraft and mosquito were unrelated with disclosure of HIV/AIDS status of a family member. Meanwhile, frequency of radio listening and watching television had marginal significant relationship with likelihood of making it remain secret if a family member who has HIV/AIDS.

The results for female respondents showed similarities with those for males. For instance, females who believed that HIV infection could be transmitted by sharing a meal with an HIV/AIDS patient were 15 percent less likely than those who thought otherwise to want HIV/AIDS status remain secret if a family member has HIV/AIDS. Those with tertiary education and who resided in the north east or north west were most unwilling to disclose the HIV status of a family member. Although age, frequency of radio listening, using of condom every time and reduction in the number of sexual partners were significantly associated with willingness to make HIV/AIDS sero-status of a family member with HIV/AIDS remain secret among males, this association did not apply to females. Overall, religious affiliation, knowing someone with HIV/AIDS, belief that a person could get HIV/AIDS infection through witchcraft and mosquito bites and those who believed that a healthy looking person could be infected with HIV/AIDS were not related to willingness to disclose the HIV sero-status of a family member.

4. DISCUSSION

In this nationally representative study, stigmatization of HIV infected and affected persons were identified as a constraint to addressing the HIV/AIDS epidemic in Nigeria. Since HIV/AIDS related stigma and the resulting discriminatory attitudes create an environment that fuels the epidemic, programs targeted at educating people about HIV/AIDS can play a role in reducing the stigma and discrimination against people with AIDS. Majority of respondents in this study expressed discriminatory attitudes as measured by the ability to disclose that a member of the family was HIV positive, the possibility of allowing an HIV positive colleague to continue working and the possibility of allowing a young child who was HIV positive but not sick to remain in school. Generally men exhibited more tolerant attitudes to people living with HIV/AIDS than their female counterparts that is the reverse of what obtained in Botswana (Letamo, 2003).

Younger people (15 -24 year olds) who were less educated, from the south west and south east zones and who had minimal exposure to radio and television messages were more likely to exhibit discriminatory attitudes to an HIV positive young child being allowed in school. Both male and female respondents who believed that HIV could be contracted through sharing a meal or through mosquito bites were also more likely to suggest that HIV positive children should be kept out of school.

The levels of educational attainment were significantly related with respondent's perceptions regarding an HIV positive colleague. The higher the level of educational attainment the less likely they would exhibit discriminatory attitudes. Younger female respondents were more likely than their male counterparts to discriminate against their colleagues and this was also more common in the south west and south south regions. Irrespective of gender, respondents who believed that HIV could be contracted through sharing a meal or through mosquito bites were also more likely to suggest that HIV positive colleagues be kept out of the office.

Interestingly respondents who were more educated and from the north east and north west were most unwilling to disclose that a family member was HIV positive. There also appeared to be an inverse relationship with the willingness to disclose that a family member was HIV positive with the correct knowledge of modes of transmission of HIV. The higher the misconceptions, the more likely they would disclose the HIV status of their family member.

5. PROGRAMME IMPLICATIONS

While the majority of respondents (88%) in this study have heard about HIV, misconceptions about the mode of transmission of the virus is relatively high and appears to be fueling the discriminatory attitudes expressed by both male and female respondents. Given also that younger and less educated persons were more likely to discriminate against people living with HIV, national information, education and communication programs need to emphasize the correct modes of transmission of the virus so that fears can be allayed and people can relate compassionately with friends and relatives living with HIV/AIDS.

People living with HIV/AIDS are considered as having no hope and therefore are viewed as economically unproductive people even though they may be physically fit. This was implicitly suggested by respondents who believed that colleagues who were HIV positive should not be allowed at work. Programs need to educate the general public that while AIDS remains incurable, it is possible for people living with the virus to live functional and economically viable lives with adequate nutritional and psychosocial support, rest, treatment of opportunistic infections and antiretroviral therapy

Given the impoverishing cost of caring for relatives with HIV/AIDS, most countries with a high burden of disease have resolved to promote community home based care for people living HIV/AIDS. In this instance, sick people are cared for in their homes by relatives while health care and social welfare officers provide "technical support" to these relatives. Traditionally, women are the primary care givers in the African community Nigeria inclusive; hence the greater

burden of providing care falls on them. Girls are the first to be withdrawn from school in the event of dwindling family resources and this reduces their level of educational achievement, future earning capacity and also reduces exposure to HIV prevention messages. Their increased domestic work load and insufficient psychological and social support may lead to resentment that inadvertently reinforces stigmatizing behaviour. Efforts need to be made to ensure that gender inequalities are not heightened while designing care and support programs. Further qualitative research is needed to give better understanding of the reasons why females appear to have more stigmatizing attitudes.

Table 1: Percentage distribution of respondents according to the selected socio-demographic characteristics

Characteristics			Total (N=10,090)
	Male (N=4,962)	Female (N=5,128)	
Age (years)			
15-24	37.2	43.6	40.4
25-34	25.8	30.2	28.0
35 years and above	37.1	26.2	31.5
Median age	29.0	26.0	27.0
Education			
No education	19.1	35.7	27.6
Qur'anic	9.5	7.2	8.3
Primary	22.5	22.0	22.2
Secondary	37.3	28.9	33.0
Post-secondary	11.5	6.3	8.8
Region of residence			
North-east	14.0	15.0	14.5
North-west	22.5	22.8	22.6
North-central	17.5	17.4	17.3
South-east	11.8	12.1	12.0
South-south	15.2	14.8	15.0
South-west	19.5	17.9	18.7
Religious affiliation			
Islam	47.2	47.3	47.2
Protestant	35.7	36.4	36.1
Catholic	14.4	13.8	14.1
Others	2.7	2.6	2.6
Frequency of listening to radio			
Everyday	59.3	40.5	49.7
Once a week	18.6	18.7	18.7
Less than once a week	9.9	13.3	11.6
Never	12.2	27.4	19.7
Frequency of watching television			
Everyday	30.5	22.2	26.3
Once a week	13.7	11.8	12.7
Less than once a week	11.8	9.5	10.6
Never	44.0	56.5	50.4

Table 2: Percentage distribution of people (n=8,852) expressing discriminatory attitudes towards people with HIV/AIDS

Characteristics	Male		Female		Total	
	Number	%	Number	%	Number	%
Would you want it to remain secret if a member of your family became ill with HIV/AIDS						
Yes***	1,690	39.0	1,702	42.9	3,392	40.9
No	2,645	61.0	2,263	57.1	4,908	59.1
Should a colleague who became sick with HIV/AIDS be allowed to continue working with you						
Yes***	1,944	44.6	1,469	38.0	3,413	41.5
No	2,412	55.4	2,393	62.0	4,805	58.5
Should a child who has HIV/AIDS be allowed to attend school						
Yes***	1,837	41.5	1,417	35.2	3,254	38.5
No	2,594	58.5	2,612	64.8	5,206	61.5

Table 3: Adjusted odds ratios that a child with HIV/AIDS should not be allow to attend school with other children, by selected explanatory variables according to sex, Nigeria, 2003

Explanatory factors	Odds ratios	
	Male	Female
Educational attainment		
None	1.35**	1.31**
Qur'anic	1.08	1.36*
Primary	1.31***	1.23**
Secondary	1.00	1.00
Post-secondary	0.51***	0.62***
Age Group		
15-24 years	1.16*	1.09
25-34 years	1.08	1.01
35 years and above	1.00	1.00
Region of residence		
North east	0.79*	0.60
North-west	0.41***	0.55
North-central	1.00	1.00
South-east	1.48***	1.96***
South-south	0.83	1.18
South-west	1.56***	1.76***
Religious affiliation		
Islam	1.05	1.29
Protestants	0.84	1.15
Catholic	0.66*	0.91
Others	1.00	1.00
Frequency of listening to radio		
Daily	0.89	0.81**
Once a week	1.00	1.00
Less than once a week	1.55***	0.92
Frequency of watching television		
Daily	1.00	1.00
Once a week	1.29**	1.20
Less than once a week	1.23*	1.35**
Never	1.37***	1.32***
Know someone who has the AIDS virus or who has AIDS?		
Yes	1.10	0.93
No	1.00	1.00
Can a person contract HIV infection by sharing a meal with an infected person?		
Yes	1.60***	1.80***
No	1.00	1.00
Can a person get HIV/AIDS through witchcraft?		
Yes	1.13	1.23**
No	1.00	1.00
Can bedbug or mosquito transmit HIV/AIDS?		
Yes	1.40***	1.50***
No	1.00	1.00
Can a healthy looking person be infected with HIV/AIDS?		
Yes	0.62***	0.79**
No	1.00	1.00
Using condom every time can reduce contracting HIV/AIDS?		
Yes	0.88	0.75**
No	1.00	1.00
Reduction in the number of sexual partner would avoid getting HIV/AIDS?		
Yes	1.01	0.95
No	1.00	1.00
-2 log likelihood	5,534.02	4,840.25
N	4,431	4,029

Significance level: *p<0.1, **p<0.05, ***p<0.01

Table 4: Adjusted odds ratios that a colleague in the office who has HIV/AIDS should not be allowed to continue his/her work, by selected explanatory variables according to sex, Nigeria, 2003

Explanatory factors	Odds ratios	
	Male	Female
Educational attainment		
None	1.43***	1.34**
Qur'anic	0.92	1.74***
Primary	1.15***	1.39**
Secondary	1.00	1.00
Post-secondary	0.41***	0.60***
Age Group		
15-24 years	1.21**	1.22**
25-34 years	1.07	1.02
35 years and above	1.00	1.00
Region of residence		
North east	0.64***	0.53***
North-west	0.40***	0.48***
North-central	1.00	1.00
South-east	1.56***	2.23***
South-south	0.84	1.58***
South-west	1.81***	2.13***
Religious affiliation		
Islam	1.24	1.02
Protestants	0.88	0.85
Catholic	0.81	0.69
Others	1.00	1.00
Frequency of listening to radio		
Daily	0.84**	0.89
Once a week	1.00	1.00
Less than once a week	1.54***	1.09
Frequency of watching television		
Daily	1.00	1.00
Once a week	1.37***	1.29**
Less than once a week	1.50***	1.59***
Never	1.48***	1.73***
Know someone who has the AIDS virus or who has AIDS?		
Yes	1.02	0.83**
No	1.00	1.00
Can a person contract HIV infection by sharing a meal with an infected person?		
Yes	1.78***	1.77***
No	1.00	1.00
Can a person get HIV/AIDS through witchcraft?		
Yes	1.34***	1.13
No	1.00	1.00
Can bedbug or mosquito transmit HIV/AIDS?		
Yes	1.25***	1.29***
No	1.00	1.00
Can a healthy looking person be infected with HIV/AIDS?		
Yes	0.63**	0.80***
No	1.00	1.00
Using condom every time can reduce contracting HIV/AIDS?		
Yes	0.85**	0.77***
No	1.00	1.00
Reduction in the number of sexual partner would avoid getting HIV/AIDS?		
Yes	1.06	1.07
No	1.00	1.00
-2 log likelihood	5,401.24	4,858.26
N	4,356	3,882

Significance level: *p<0.1, **p<0.05, ***p<0.01

Table 5: Adjusted odds ratios that respondents would want a family member with HIV/AIDS to remain secret by selected explanatory variables according to sex, Nigeria, 2003

Explanatory factors	Odds ratios	
	Male	Female
Educational attainment		
None	0.68***	0.80**
Qur'anic	1.25	0.57***
Primary	0.83**	0.89
Secondary	1.00	1.00
Post-secondary	1.47***	1.31**
Age Group		
15-24 years	1.25***	1.11
25-34 years	1.17*	1.03
35 years and above	1.00	1.00
Region of residence		
North east	1.70***	2.97***
North-west	2.44***	1.61***
North-central	1.00	1.00
South-east	1.28*	1.28*
South-south	1.25*	1.01
South-west	1.32**	1.51***
Religious affiliation		
Islam	1.27	0.95
Protestants	1.02	0.84
Catholic	1.05	0.99
Others	1.00	1.00
Frequency of listening to radio		
Daily	0.91	0.98
Once a week	1.00	1.00
Less than once a week	0.77**	0.89
Frequency of watching television		
Daily	1.00	1.00
Once a week	0.84*	0.99
Less than once a week	0.85	0.87
Never	0.69	0.80**
Know someone who has the AIDS virus or who has AIDS?		
Yes	0.92	0.96
No	1.00	1.00
Can a person contract HIV infection by sharing a meal with an infected person?		
Yes	0.74***	0.85*
No	1.00	1.00
Can a person get HIV/AIDS through witchcraft?		
Yes	0.87	0.94
No	1.00	1.00
Can bedbug or mosquito transmit HIV/AIDS?		
Yes	0.97	0.94
No	1.00	1.00
Can a healthy looking person be infected with HIV/AIDS?		
Yes	1.00	0.89
No	1.00	1.00
Using condom every time can reduce contracting HIV/AIDS?		
Yes	1.22**	1.02
No	1.00	1.00
Reduction in the number of sexual partner would avoid getting HIV/AIDS?		
Yes	0.77***	1.00
No	1.00	1.00
-2 log likelihood	5,537.80	5,269.74
N	4,335	3,985

Significance level: *p<0.1, **p<0.05, ***p<0.01

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