WILLINGNESS TO UNDERGO HIV TESTING IN THE KINTAMPO DISTRICTS OF GHANA

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SUMMARY

Background: HIV testing is currently a major prevention intervention and remains an entry point to early treatment, care and support. Uptake is however low and alternative approaches are currently being adopted.

Objective: An HIV module was incorporated into the routine survey of the Kintampo Health and Demographic Surveillance System (KHDSS) to assess the willingness of adults living in the Kintampo North and South districts to undergo HIV testing.

Design: The study was a descriptive cross-sectional household survey. Univariate and multivariate analysis were used to identify predictors of the willingness to undergo HIV testing.

Participants: Respondents were community members aged 15 to 49 years and selected from randomly generated household listings from the KHDSS.

Results: A total of 11,604 respondents were interviewed, 10,982 (94.6%) of respondents had good general knowledge on HIV/AIDS. Among those with knowledge about HIV/AIDS, 10,819 (98.5%) indicated their willingness to get tested for HIV. Rural residents were more willing to undergo HIV testing than urban dwellers Odds ratio=1.42 (95% Confidence interval: 1.03, 1.96; P-value=0.031). Respondents with primary education were more likely to go for testing relative to those without any education OR=2.02 (95% CI: 0.87, 4.70; P-value=0.046).

Conclusion: Expressed willingness to test for HIV is high in this population. Exploring community and population-based interventions to HIV testing and counseling could increase uptake of HIV testing services and should be considered. The underlying motivations need to be explored in order to translate willingness into actual testing.

Key words: HIV/AIDS, Routine survey, Willingness to test, Logistic regression, Ghana

INTRODUCTION

HIV testing is currently a major prevention intervention and remains an entry point to early treatment, care and support. As a package of intervention, the ideal HIV testing program includes pre-test counselling, the actual test for HIV and post-test counselling. Irrespective of the results or outcome of a test, the client obtains information that could translate into behaviour change. With increasing availability of antiretroviral therapy, people living with HIV/AIDS (PLWHA) are able to live much more improved quality of life and this has enhanced the importance of HIV testing.[1]

Although HIV testing capacity has increased over time to enable more people know their HIV status, the majority of people living in sub-Saharan Africa do not know their HIV status.[2] Testing coverage documented in population-based surveys from 2007 to 2008 ranged from 3.2% in women and 4.9% in men in Liberia.[3] In a nationally representative survey in Uganda conducted from 2004 to 2005, just 21% of adults knew their HIV status.[4] Another study in Kenya reported only 15% of Kenyans had ever been tested for HIV.[5]

In southern Africa those who had ever tested for HIV and those who took a test within 12 months prior to the survey ranged between 2% in Mozambique to 20% in Bostwana.[6] In another study in South Africa 27% had ever tested but only 7.8% knew the HIV status within 12 months of the study.[7] According to the 2008 Ghana Demographic and Health Survey, only 21% of women and 14% of men within 15-49 years old had ever been tested for HIV.[8]

How to get people to voluntarily opt to undergo HIV testing (voluntary counselling and HIV testing – VCT) remains a major challenges.[9] This is driving the shift to other modalities for HIV testing, such as the opt-out approach. This approach is increasingly being deployed in special populations such as pregnant women.[10]

There is widespread knowledge and universal awareness of HIV and modes of transmission in Ghana.[11,8] Studies conducted among pregnant women in Malawi and Tanzania reported that most women were willing to test for HIV but this was contingent on benefits such as free antiretroviral drugs in the case of Tanzania. In the case of Malawi however the views of others played a part in whether they go for HIV test or not.[12] Other published data suggest an equally high level of awareness of VCT for HIV testing.

In a study conducted among antenatal clinic attendants in rural Ghana, 93% of 270 respondents indicated a willingness to get tested for HIV.[13] Similarly, a study conducted among antenatal attendants at the Komfo Anokye Teaching hospital in Ghana showed that 90% of 290 respondents were willing to undergo HIV testing if anonymity was guaranteed and treatment was available if they tested positive.

This same study showed high level of the common modes of HIV transmission.[14] These studies about willingness to test for HIV have however largely focused on specific target populations; pregnant women at antenatal clinics. Limited information however exists on population-based studies in determining the extent to which people are willing to test for HIV infection within a demographic surveillance system.

METHODS

Study Setting: The survey was conducted in the Kintampo North and South Districts located within the forest-savannah, transitional ecological zone of Ghana. The districts, which are predominantly rural are also located on a major highway and a major stop-over for long distance drivers, majority of who pass the night in the districts as they ply across the country and neighbouring countries. The stopover made by these long-distance drivers has been found to correlate with transmission of the virus.[15]

There are in total thirty-two health facilities including two district hospitals and four private clinics within the two districts. However HIV services including HIV Testing and Counselling (HTC), Prevention of Mother to Child Transmission (PMTCT) and Know Your Status (KYS) Campaign are provided in the two district hospitals. CD4 count services as well as Anti-Retroviral Therapy (ART) are also available at both hospitals. The Kintampo North Municipal Hospital however serves as a referral point to the other clinics most of which deliver diagnostic services.

Sampling and Data Collection Procedures: The Kintampo Health Research Centre (KHRC) maintains a Health and Demographic Surveillance System (HDSS) within the two districts. The HDSS database was used for obtaining a representative sample of the population who were between 19 and 49 years old.

A structured questionnaire comprising HIV awareness and attitude towards HIV testing were included in the HDSS survey conducted between January and June 2007. Information on the socioeconomic background of each household was obtained.

Data Management and Analysis: Data was entered in Visual FoxPro version 6.0 and analyzed in Stata version 11.2. Basic analysis to describe the characteristics of respondents was conducted. With the primary outcome as willingness to get tested for HIV, univariate analysis was performed to identify significant predictors of willingness to get tested. Factors determined to be significantly associated (p value less than 0.05) with this outcome were included in a multivariate logistic regression model to identify independent predictors of the outcome of interest.

Ethical considerations: Ethical approval was obtained from the Kintampo Health Research Centre Institutional Ethics Committee as part of the Kintampo HDSS data collection process. Consent was also obtained from household heads and all individual respondents interviewed.

RESULTS

A total of 11,604 respondents were interviewed. This represents 50% of all households under the KHDSS. Respondents were made up of 29% males and 71% females. The mean age was 31.0 years and standard deviation 8.9. Majority (71%) of respondents were resident in areas of rural character. The age group with the highest number of respondents was 30-34 years accounting for 18.1% of the study sample followed by 35-39 with 17.2% (Table 1).

Table 1 Demographic characteristics of respondents N=11,604

Gender	**n**	**%**
Male	3246	28.7
Female	8358	71.3
Age (years)		
15-19	1381	12.6
20-24	1696	15.4
25-29	1857	16.9
30-34	1990	18.1
35-39	1888	17.2
40-44	1525	13.9
45-49	645	5.9
Location		
Urban	3246	28.7
Rural	8358	71.3

Demographic background of respondents' household heads

Respondents were asked questions which were used to describe demographic characteristics of households. Fifty-two percent of household respondents had no formal education.

Majority of the household respondents were Christians (51.2%) and 76.5% were married. Seventy-one percent of respondents' household heads were farmers and domestic workers.

Willingness to get tested for HIV

Nearly all (99%) respondents who had heard of HIV/AIDS were willing to get tested for HIV. Of the few who were not willing to get tested for HIV, the main reasons were lack of confidentiality with health staff (16.6%), no cure for AIDS (14.7%) and the stigma associated with HIV/AIDS (14.7%). (Table 2)

Table 2 Willingness to test for HIV (N=10,982)

	N	%
Yes	10819	98.5
No	163	1.5
Reasons for not willing to test for HIV(N=163)		
No cure	24	14.7
Stigma	24	14.7
Lack of confidentiality	27	16.6
Familiarity with staff	2	1.2
Other	63	52.8

Predictors of willingness to get tested for HIV

Educational level of the household was the strongest predictor of willingness to test for HIV in both the univariate and multivariate logistic regression. Household respondents with primary education were more likely to go for testing relative to those without any education OR=2.02 (95% CI: 0.87, 4.70; P-value=0.046).

While, household respondents with higher education were less likely to go for voluntary testing compared to those without education. Rural residents were more willing to undergo HIV testing than urban dwellers Odds ratio=1.42 (95% Confidence interval: 1.03, 1.96; P-value=0.031). (Table 3)

DISCUSSION

Almost 95% of the respondents had heard of AIDS This high and almost universal knowledge and awareness of HIV among adults is consistent with other studies.[8] The survey reported a high level of willingness to test for HIV among respondents. Ninety-three percent of respondents were willing to test to know their HIV status. This is similar to findings from Uganda and Ghana were willingness to test was equally high.[16,13] Education was identified as the strongest predictor of willingness to test for HIV as respondents with respondents with primary education were more likely to want to get tested than those with education. Rural dwellers were also more willing to test than their urban counterparts with odds ratio of 1.42. Married couples were assumed to be sexually active. Findings from studies in Gaborone and Botswana among students revealed that sexual activity was the most important predictor of willingness to test for HIV. Students who were not sexually active were twice as willing to test for HIV with odds ratio of 2.20.[17] Students who were sexually active and most at risk were least willing to test for HIV infection.

CONCLUSION

Expressed willingness to test for HIV in the population is high. Exploring community or population-based interventions to HIV testing and counseling could increase uptake of HIV testing services and should be considered. The underlying motivations need to be explored to translate willingness into actual testing.

REFERENCES

1. Peltzer K, Ajegbomogun B. Utilisation of antenatal care in a Nigerian teaching hospital. *Afr J Reprod Health* 2005 Dec;9(3):159-61.
2. Cherutich P.; Kaiser R, Galbraith J., Williamson J., Shiraishi R.W., Ngare C., Mermin J., Marum E.,. Lack of knowledge of HIV status, a major barrier to HIV Prevention, Care and Treatment Efforts in Kenya: Results of Nationally Representative Study. *PLos ONE*. 2012;7(5).
3. WHO/UNAIDS/UNICEF. Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector Progress Report. Geneva: World Health Organization; 2009.
4. Bunnel R, Masinguzi, J., Kirungi, W., Ekwaru, P., Mishra, V., Hladik, W., Kafuko, J., Madraa, E., Mermin, J. HIV transmission risk behaviour among HIV infected adults in Uganda. Results of a nationally representative survey. *AIDS* 2008;22(5):617-24.
5. NASCOP. 2007 Kenya AIDS Indicator Survey: Final Report. Nairobi: National AIDS/STI Control Programme (NASCOP); 2009.
6. SADC. 2007 SADC HIV and AIDS Epidemic Report. Gaborone: South African Development Community (SADC); 2008.
7. Peltzer K, Matseke G, Mzolo T, Majaja M. Determinants of knowledge of HIV status in South Africa: results from a population-based HIV survey. *BMC Public Health*. 2009;9:174.

8. Ghana Statistical Service (GSS) GHSG, ICF Macro. Ghana Demographic and Health Survey 2008. Accra: GSS, GHS, and ICF Macro; 2009.
9. Obermeyer CM OM. The Utilization of Testing and Counselling of HIV: A Review of Social and Behavioural Evidence. *Am J Public Health*. 2007;97(10).
10. Nyuzaghl J, Ohene S, Odoi-Agyarko K. Acceptability of Routine Offer of HIV Testing (Opt-Out Approach) among Pregnant Women in the Wa Municipality. *Ghana Med J*. 2011 Mar;45(1):10-5.
11. GAC. National HIV/AIDS Strategic Framework II 2006-2010. Accra: Ghana AIDS Commission (GAC); 2005.
12. de Paoli MM, Manongi R, Klepp KI. Factors influencing acceptability of voluntary counselling and HIV-testing among pregnant women in Northern Tanzania. *AIDS Care*. 2004 May;16(4):411-25.
13. Baiden F, Baiden R, Williams J, Akweongo P, Clerk C, Debpuur C, et al. Review of Antenatal-Linked Voluntary Counseling and HIV Testing in Sub-Saharan Africa: Lessons and Options for Ghana. *Ghana Med J*. 2005 Mar;39(1):8-13.
14. Addo V. Pregnant Women's Knowledge of and Attitudes to HIV Testing at Komfo Anokye Teaching Hospital, Kumasi. *Ghana Med J*. 2005 Jun;39(2):50-4. ✪

Table 3 Univariate and multivariate logistic regression for Predictors of willingness to test for HIV among 10982 residents of the Kintampo North and South Districts with knowledge about HIV/AIDS

		Unadjusted odds ratio			Adjusted odds ratios		
Characteristics	**n (%)**	**Odds ratio**	**95% CI**	**P-value**	**Odds ratio**	**95% CI**	**P-value**
Gender							
Female	7719 (98.5)	1			1		
Male	3101 (98.5)	1.01	(0.72, 1.43)	0.07	0.97	(0.65, 1.45)	0.885
Age group (years)							
15-19	1354 (98.0)	1			-	-	-
20-24	1674 (98.7)	1.52	(0.86, 2.68)	0.530	-	-	-
25-29	1833 (98.7)	1.52	(0.87, 2.65)		-	-	-
30-39	3823 (98.6)	1.39	(0.87, 2.65)		-	-	-
40-49	2136 (98.4)	1.25	(0.75, 2.10)		-	-	-
Education of HH							
None	4557 (98.7)	1			1		
Primary	896 (99.3)	1.97	(0.85, 4.56)	0.011	2.02	(0.87, 4.70)	0.046
Higher education	2720 (98.1)	0.66	(0.46, 0.96)		0.73	(0.49, 1.10)	
Religion of HH							
Christian	4706 (98.4)	1					
Muslim	2441 (98.6)	1.17	(0.78, 1.75)	0.164	-	-	-
Traditional	693 (99.0)	1.66	(0.76, 3.61)		-	-	-
None	1106 (99.3)	2.32	(1.12, 4.82)		-	-	-
other	45 (97.8)	0.76	(0.10, 5.55)		-	-	-
Wealth index							
Least poor	1889 (98.7)	1			1		
Less poor	2115 (98.9)	1.22	(0.69, 2.15)	0.029	0.45	(0.81, 2.66)	0.497
Poor	2015 (98.8)	1.11	(0.63, 1.95)		0.36	(0.67, 2.15)	
More poor	1581 (98.4)	0.80	(0.46, 1.40)		0.32	(0.54, 1.89)	
Very poor	1399 (97.7)	0.56	(0.33, 0.95)		0.30	(0.38, 1.68)	
Residence							
Urban	3162 (98.1)	1			1		
Rural	7658 (98.7)	1.42	(1.03, 1.96)	0.031	1.03	(0.62, 1.72)	0.900

168 missing socio-economic household data