HIV-related stigma and HIV testing: a cross-country comparison in Vietnam, Tanzania, and Côte d'Ivoire.

Mai Do, MD,MPH, DrPH
Tulane University, Department of International Health and Development
And
Hani Guend, MS, MPHS, PhD
Université du Quebec, Institut National de la Recherche Scientifique

INTRODUCTION

For nearly three decades, efforts to combat HIV/AIDS epidemic worldwide were faced with persistent stigma and discrimination toward people living with HIV/AIDS. HIV-related stigma seems common even in settings where HIV is widespread and affects a significant proportion of the population. There is a vast body of literature on HIV-related stigma and its impacts on HIV testing, responses to positive test results, and subsequently on the prevention of further HIV transmission in developed as well as developing countries (see, for example, Brown et al., 2003; Chesney and Smith, 1999; Kalichman and Simbayi, 2003).

This paper examines the associations between HIV-related stigma and the first delay: delays in getting tested. Cross-country comparisons will be carried out for settings with different epidemic scenarios: Vietnam, where the epidemic remains concentrated with a low prevalence of under 1% among the adult population, Côte d'Ivoire, where the prevalence is moderate (4.7%), and Tanzania, where HIV prevalence among the adult population is notably higher (at nearly 8%). Stigma is often a context-specific phenomenon, tied to culture and sexual taboos. Nonetheless, evidence from an ICRW-led 2001-04 multi-country survey which includes Vietnam and Tanzania, showed that the key causes of stigma, its impact and its consequences have many more similarities than differences across contexts (ICRW 2006). These two countries along with Côte d'Ivoire are also selected because of the availability of national AIDS Indicator Surveys, which allow us to implement similar analyses and make general inferences.

In Vietnam, while there has been an increasing trend of HIV infection among women through heterosexual activities, the epidemic is still seen as focused mainly among high risk groups, which include injecting drug users (IDUs) and commercial sex workers (Nguyen et al., 2008; UNAIDS, 2008). Until recently, for a long period of time, the media and information-education-communication campaigns had portrayed these two high risk groups as "social evils" for their behavior and lifestyle. Well-intended intervention efforts accidentally fueled the wide spread of stigma and discrimination toward HIV infected people by equating them with IDUs and commercial sex workers (Khuat, 2004). Meanwhile, the availability of HIV voluntary counseling and testing (VCT) remains limited (UNAIDS, 2008). Clients at these VCT sites also remain largely members of the two high risk groups.

In Côte d'Ivoire, the epidemic touches all ethnic groups but the geographic distribution is markedly unbalanced with higher prevalence in the capital city Abidjan and the contiguous regions. Male circumcision seems to make a difference in the risk of infection. Most men (96%) declared being circumcised. The country has the highest prevalence rate of HIV/AIDS in West

Africa. Evidence from surveillance studies showed that the prevalence rate has been on the rise since the first case was detected in 1985. Some studies give an estimate of as high as 10 percent among adults. Men generally show more tolerance towards people living with HIV/AIDS than women. However, most men (86%) and women (83%) would take care at home of an HIV/AIDS affected parent in their own household.

In Tanzania, 7 percent of adults age 15-49 are infected with HIV/AIDS with a strong regional variation; the highest rates varying from 11 to 14 percent. Evidence from 2003-04 AIS shows that Tanzanian adults generally display accepting attitudes towards people living with HIV/AIDS. Like in Côte d'Ivoire, men show more tolerance than women and most people (9 in 10) would be willing to care for a relative who lives with AIDS in their own households. About 70 percent of men reported being circumcised, a significantly lower proportion than in Côte d'Ivoire.

In these countries, despite a large number of small-scaled studies on HIV-related stigma and testing, there has not been a study assessing the levels of and associations between stigma and HIV testing among the general population. This present study examines these associations using recent data collected from nationally representative samples in Vietnam, Tanzania and Côte d'Ivoire. In addition, the availability of AIDS Indicator Surveys allows us a unique opportunity to compare and contrast the relationships between HIV-related stigma and testing in countries at different epidemic phases.

DATA AND METHODS

Data for this study come from the Vietnam 2005, Côte d'Ivoire 2005, and Tanzania 2003 AIDS Indicator Surveys, conducted by ORC Macro. In these countries, the AIDS Indicator Survey is designed to obtain program indicators of knowledge, attitudes and sexual behavior related to HIV/AIDS among a nationally representative sample of men and women aged 15-49. More detailed description of sampling procedures can be found in each country's final report. Household and Individual Questionnaires were administered to selected households and eligible men and women. The Individual Questionnaires include questions related to HIV/AIDS-related knowledge, behavior, stigma and HIV testing. Table 1 displays basic characteristics of the survey samples.

Table 1 about here

We limit the analysis to individuals who ever had sex, because of extremely low likelihood of HIV testing among those who never had sex, particularly in Vietnam. This proportion is also very low in Tanzania where less than 5 percent of respondent who never had sex, had ever been tested. In Côte d'Ivoire only 3 and 4 percent of men and women have had a test of HIV/AIDS and had known the result in the 12 months preceding the survey. As a result, 9,389 men and women aged 15-49 in Vietnam, 10653 in Tanzania, and 8655 in Côte d'Ivoire are included in this study.

Two outcomes of interest are HIV-related stigma and ever testing. Because stigma can be country-specific, measures of HIV-related stigma may vary slightly between countries. In

Vietnam, it is constructed based on responses to four questions related to attitudes towards food vendors and teachers who have HIV/AIDS and whether those who are infected should be ashamed or blame themselves for having HIV. The summative score is dichotomized at median to group individuals into high and low stigma groups. HIV testing is also a binary outcome, indicating whether an individual ever had an HIV test, regardless of test results. In Tanzania, this composite indicator shows that only 27 percent of men express positive attitudes on all four indicators and, for all but one indicator, women are less likely than men to express accepting attitudes towards those living with HIV/AIDS.

Multivariate analysis is carried out with structural equation modeling. Because both outcomes are binary, biprobit procedure is used to test for endogeneity; in this procedure, the number of lifetime partners and knowledge of HIV/AIDS prevention are excluded from the equation for stigma, and daily exposure is excluded from the equation for HIV testing for theoretical and empirical reasons. For Vietnam, rho = .37 and is not significant, indicating that the two outcomes, HIV-related stigma and testing, are exogenous. Once exogeneity is confirmed, multivariate logistic regression models are employed to take into account the clustering of individuals at the commune level. In this abstract, we present results from Vietnamese data. The same procedures will be applied to AIS data of Tanzania and Côte d'Ivoire, and results will be compared.

FINDINGS

In Vietnam, high stigma seemed prevalent – a third of respondents held high level of stigma attitudes towards people with HIV. Testing, on the other hand, was rare – merely 7% of respondents ever had an HIV test. Table 1 shows significant variations in both outcomes across different individual characteristics in both bivariate and multivariate models. High level of stigma was significantly associated with gender, education, exposure to the media, region and urban residence. Both bivariate and multivariate analyses show that high level of stigma was significantly less common among men compared to women: the odds of men's having high stigma attitude were only two-thirds of that of women ($p<.001$). Higher education was also associated with lower odds of having high level of stigma ($p<.001$). Similarly, daily exposure to the media was associated with one-fourth decrease in odds of having high stigma level ($p<.01$). Individuals in the central part of the country were less likely than elsewhere to hold high stigma against HIV-infected people ($p<.001$). As expected, urban residents were also less likely than their rural counterparts to hold strong stigma attitudes ($p<.001$).

Table 2 about here

While HIV-related stigma seemed strongly associated with individual socio-economic and demographic characteristics, having an HIV test, on the other hand, was strongly associated with several HIV-related and sexual behavior factors. Knowing someone with HIV or who died of AIDS was associated with two-fold increase in the odds of having had an HIV test ($p<.001$). The odds of having an HIV test was also increased by 1.7 times among those who had had two or more sex partners, compared to those who had only one partner ($p<.01$). Knowledge of HIV/AIDS prevention, however, was not significantly related to HIV testing. High level of stigma against HIV/AIDS was related to marginally reduced odds of HIV testing ($p<.10$).

Among socio-economic factors, individual education was the only factor significantly associated with HIV testing: the odds of having an HIV test was increased markedly with higher levels of education, compared to people who had no more than primary schooling ($p<.001$).

DISCUSSIONS

This study compares the levels and determinants of HIV-related stigma and HIV testing in a few countries at different stage of the epidemic. In Vietnam, where prevalence is low, HIV-related stigma remains common and strongly influenced by individual socio-economic characteristics. The finding that men were less likely than women to hold stigma attitudes is unexpected. Many believe that in a society like Vietnam, where family values are strongly held and women are usually expected by themselves and others to take care of sick family members, even those with HIV/AIDS (Khuat, 2004), women would likely have compassion toward HIV-infected people. One possible explanation for this finding is that women may be more likely than men to be home-bound because of household chores, less likely to participate in social activities and be exposed to updated information. Psychosocially, any fears that women may have with regard to HIV and HIV-infected people may also be more deeply rooted and difficult to change than those among men. Meanwhile, the media seemed to have a strong and positive effect on reducing HIV-related stigma and should be explored as a potential channel for stigma reduction interventions.

While HIV-related stigma remained widespread, our findings, however, indicate that it is not a major barrier to HIV testing, even in a low-prevalence setting. Personally knowing someone with HIV or who died of AIDS was a strong predictor of having an HIV test, but not of stigma. It is possible that such a personal connection to HIV/AIDS plays a role in heightening individual's awareness of his/her own vulnerability to HIV/AIDS, although it does not change one's attitudes toward HIV-infected people. The number of sex partners that one had was also associated with increased odds of having an HIV test. While knowledge of HIV/AIDS prevention was not important to HIV testing, the findings suggest that individual's perception of vulnerability, rather than overall knowledge of HIV/AIDS, is an important motivation for one's action toward taking a test. Given the limited availability of HIV test, if programs' focus remains high risk groups, strategies to improve HIV testing should target individual sexual behaviors and personal perception of vulnerability, rather than provide general knowledge of HIV/AIDS.

The finding that individual's education was a strong predictor of HIV testing, regardless of geographic region and residence, also has important implications. While HIV test supply is limited and mainly available at public sector facilities (not shown), people who were more educated are likely to be of higher socio-economic status, and likely to have means to access HIV test than those who were less fortunate. Like with many health services that are limited but supposed to be provided free-of-charge in the public sector, many clients may have to make under-the-table payments to facilities and providers in order to obtain the test. This could also be an explanation to a much higher chance of people in urban areas than those in rural to obtain an HIV test, besides the fact that HIV testing services are more widely available in urban than in rural.

In conclusion, at least in Vietnam, we found that although HIV-related stigma is widespread, it is not a major barrier to HIV testing. Strategies to reduce stigma among women should be explored

since they are likely to be main caregivers to HIV infected people in Vietnam. In addition, efforts aimed to improve the uptake of HIV testing should target individual perceptions of risks of HIV infection and take precautions to not leave out people of low socio-economic status. Similar analyses will be carried out with Côte d'Ivoire and Tanzania to compare and contrast factors influencing HIV-related stigma and testing in these settings.

Table 1. Basic Sample Information for AIS of Vietnam, Tanzania and Côte d'Ivoire

Variables	**Côte d'Ivoire (2005) N=10955**	**Tanzania (2003) N=13350**	**Vietnam (2005) N=14157**
Response rate (%)	89.0	93.8	98.9
Mean age	27.8	36.0	31.3
Age distribution (%)			
15-19	22.6	22.6	19.6
20-29	37.4	36.5	28.3
30-39	23.9	26.1	26.2
40-49	16.0	14.9	25.9
Sex (%)			
Female	53.5	54.8	52.1
Education (%)			
No education	52.5	17.4	4.6
Primary	23.5	73.9	17.6
Secondary & higher	24.0	8.8	77.8
Religion (%)			
No religion	18.4	8.1	91.8
Christian	37.0	58.9	5.8
Muslim	43.6	32.2	-
Buddhist	-	-	1.4
Other	1.1	0.7	1.0
Marital status (%)			
Never married	39.1	31.8	34.6
Married	54.6	59.3	62.6
Formerly married	6.3	8.9	3.0

Table 2. Factors associated with stigma attitude and HIV testing among men and women aged 15-49 who have had sex, Vietnam, 2005.

Characteristics	**High stigma**		**Ever had an HIV test**	
	Bivariate model %	Multivariate model OR (s.d.)	Bivariate model %	Multivariate model OR (s.d.)
Stigma attitude				
Low	-	-	8.5***	1.00
High	-	-	4.7***	.80 (.11)†
Gender				
Female	37.4***	1.00	7.0	-
Male	28.2***	.64 (.04)***	7.4	-
Currently married or living together				
No	33.8	1.00	10.8**	1.00
Yes	33.2	.90 (.11)	6.9**	.86 (.15)
Age group				
15 – 19	34.5	1.00	7.1	1.00
20 – 29	31.6	.99 (.24)	10.0	1.18 (.52)
30 – 39	32.5	1.21 (.29)	8.0	.82 (.36)
40 – 49	35.1	1.37 (.33)	4.5	.43 (.19) †
Education level				
Primary school	45.0***	1.00	2.2***	1.00
Some secondary school	33.7***	.49 (.04)***	7.0***	2.82 (.57)***
Completed secondary school or more	13.7***	.17 (.02)***	13.9***	4.23 (.90)***
Daily exposure to the media[1]				
No	39.9***	1.00	2.1***	-
Yes	31.7***	.76 (.07)**	8.1***	-
Region				
North	33.3***	1.00	9.9***	1.00
Center	22.9***	.54 (.05)***	4.0***	.44 (.08)***
South	40.3***	1.04 (.07)	6.4***	.77 (.09)*
Residence				
Rural	35.9***	1.00	5.4***	1.00
Urban	22.5***	.59 (.04)***	14.0***	2.31 (.22)***
Knew someone with HIV or died of AIDS				
No	36.5***	1.00	5.7***	1.00
Yes	29.7***	.98 (.10)	15.8***	2.05 (.26)***
Lifetime number of partners				
Only 1	33.7**	-	6.6***	1.00
2 or more	28.9**	-	12.2***	1.69 (.25)**
Knowledge of HIV/AIDS prevention[2]				
Low	37.4***	-	5.5***	1.00
High	29.2***	-	8.6***	1.19 (.13)
Total (%)	**33.2**		**7.2**	
N	**9,389**		**8,795[3]**	

* p<.05; ** p<.01; *** p<.001

[1] The media includes newspapers, radio and television.

[2] A summative score of correct responses to different ways to prevent HIV/AIDS transmission.

[3] 9.5% of the sample didn't answer the testing question. No systematic differences were found between them and those who answered.

- Variables excluded for theoretical and/or empirical reasons.

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