How voluntary is HIV testing in Zambia?

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Abstract
The low level of voluntarism for HIV testing is negating progress on HIV/AIDS treatment and prevention programmes. With a sub-sample of 729 (17%) respondents ever tested for HIV from the 2005 Zambia Sexual Behaviour Survey and selected excerpts from the predominantly qualitative 2006 Zambia HIV Voluntary Counselling and Testing Study, this paper examines factors associated with voluntarism for HIV testing in Zambia. This paper also examines the contribution of voluntary tests to HIV testing levels in Zambia. Even though the principle of voluntarism is emphasised in the provision of HIV testing services by various international conventions, most people in Zambia tested for HIV because of compulsory or provider-oriented testing. This result raises human rights concerns but is critical for informing policy makers about the need to adopt more realistic approaches in identifying HIV-positive persons if treatment and prevention programmes are to be successful.

Introduction

Voluntary counselling and testing (VCT) services for HIV provide an important link for addressing HIV/AIDS and other related health issues (Ménard et al., 2005:75; United Nations Population Fund [UNFPA] and International Planned Parenthood Federation [IPPF], 2004:2; Joint United Nations Programme on HIV/AIDS [UNAIDS], 2002:9; World Health Organisation [WHO], 2004; Yoder and Matinga, 2004:4; 2000:182-183) but very few people have taken an HIV test in Zambia (Central Statistical Office [CSO] et al., 2006:133). Utilisation levels of VCT are not any better in the rest of Sub-Saharan Africa as more than three quarters of HIV-positive persons in this region are not aware that they are carrying the deadly virus (WHO et al., 2007:35). This entails that a lot of inadvertent transmissions will continue. WHO et al. (2007:5-7) further observed that very little progress has been made in the provision of antiretroviral therapy (ART) owing to the low levels of voluntarism for HIV testing.

In Zambia, only 35 percent of people in need of ART had received treatment as of 2006 (WHO et al., 2007:89), prompting concerns about how much progress will be made in HIV/AIDS prevention and

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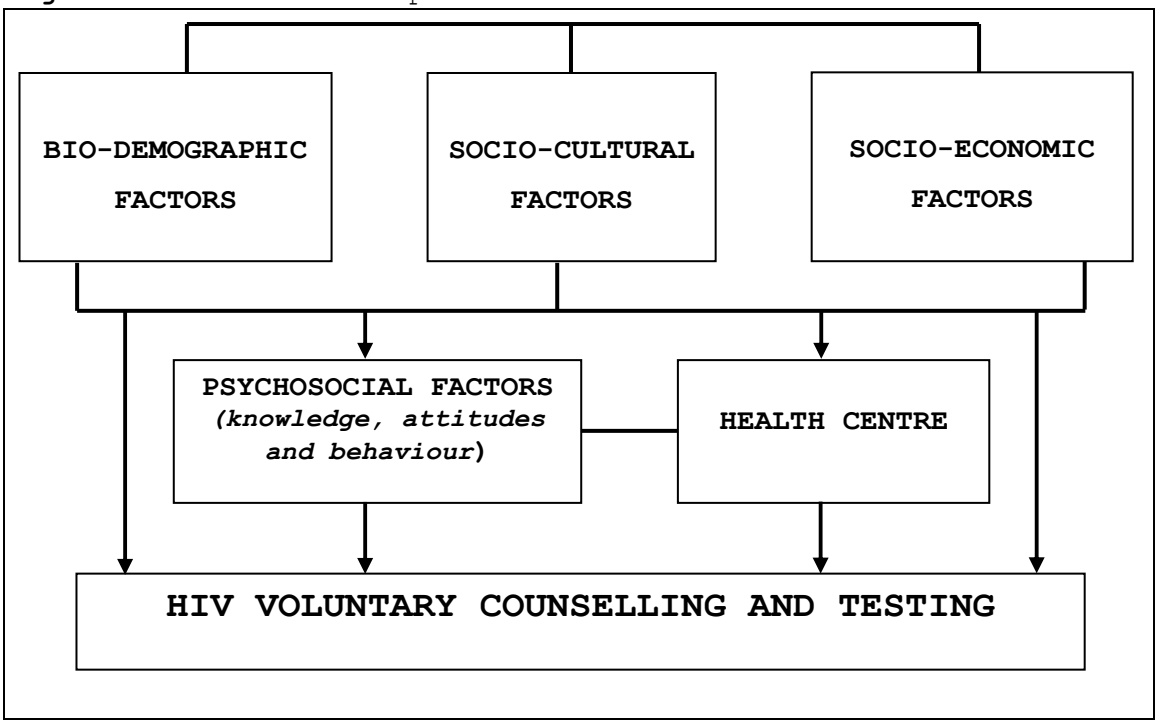
treatment programmes as long as VCT remains the main avenue for identifying HIV-positive persons. International conventions on VCT stipulate that it should be voluntary (UNFPA and IPPF, 2004; WHO, 2004; UNAIDS, 2002; United Nations, 2001:4) but WHO et al. (2007:49) has observed that provider-oriented testing has played a key role in identifying HIV-positive persons and has emphasised the need for health centres to include this approach. Therefore, this paper examines factors associated with voluntarism for HIV testing as well as the extent to which voluntarism has contributed to the use of testing services in Zambia.

Conceptual framework

There is no conceptual framework that has been developed to specifically examine factors associated with HIV testing. Using related literature, the HIV VCT conceptual framework (Figure 1) was constructed to analyse factors associated with use of VCT services in Zambia. However, issues surrounding HIV testing are complex, and are not wholly depicted by Figure 1. Therefore, Figure 1 only provides an overview of the main factors.

Figure 1. HIV VCT conceptual framework



Many studies have found that HIV testing is influenced by a combination of factors (UNAIDS, 2001:50-51; UNAIDS, 1999; Ayiga et al, 1999:66; Myers et al, 1993:702; Mbago, 2004:16-21; Ntozi and Ahimbisibwe, 1999:101-102; Meursing, 1999:37-38; Wolff et al., 2005:111-113). These include bio-demographic attributes such as age and sex, socio-economic (e.g. education, residence), socio-cultural (e.g. ethnicity, religion) and psychosocial (cognitive) attributes such as one's attitudes towards HIV/AIDS or PLWHA and level of knowledge about HIV/AIDS. Prominent among these factors is the notion that HIV testing is for people who have had risky sexual behaviour (Yoder and Matinga, 2004; Fletcher, 2003:20-21; Horizons, 2001:17), making the process of deciding to seek VCT reminiscent of the *health belief model*. According to this model, individuals decide to engage in something if they perceive health benefits from such undertaking (UNAIDS, 1999:6; Marteau, 1995:7; Bennett and Murphy, 1997:35-37).

Provider-oriented testing can also influence people to take an HIV test. For example, testing pregnant women for purposes of preventing mother-to-child transmission of HIV (PMTCT), though not coercive, provides more opportunities for uptake of VCT among women. However, as UNAIDS (1999:8) observed, fear of discrimination and violence if they are identified as HIV-infected could make women reluctant to test for HIV. In Zimbabwe, for example, Meursing (1999:37-38) observed that women's participation in HIV testing depended on approval from their spouses.

Apart from attitude and gender related issues, knowledge about HIV/AIDS also influences people's decisions about HIV testing. In China, Hesketh et al. (2005:110-112) found that many people favoured HIV testing because they were highly enlightened about HIV/AIDS. Weil (1990:48-52) also noted that individuals are likely to adopt behaviours that suit their perceptions or attitudes through personal experiences. In addition, Fishbein (2000:274-275) suggested that any given behaviour is most likely to occur if one has a strong intention to perform the behaviour, if one has the necessary skills and abilities required to

perform the behaviour, and if there are no environmental constraints preventing behavioural performance. He further noted that in some populations or cultures, the behaviour might not be performed because people have not yet formed intentions to perform the behaviour; while in others, the problem may be the lack of skills and/or the presence of environmental constraints.

Data and analytical methods

Data for this paper were drawn from the nationally representative and cross-sectional 2005 Zambia Sexual Behaviour Survey (ZSBS). This survey had 729 respondents aged 15-49 who reported having had an HIV test. The paper also uses some qualitative perspectives from the especially designed 2006 Zambia Voluntary Counselling and Testing Study (ZHVCTS) whose informants were purposely drawn from four districts in Lusaka and North Western Provinces.

Quantitative analyses were performed with the Statistical Package for Social Sciences and the dependent variable, *level of voluntarism*, was constructed from information about circumstances under which the decision to test was made. The respondents who tested for HIV did so under one of the following conditions: (i) it was a requirement for them to test (*low level of voluntarism*); (ii) they were asked by someone to test (*medium level voluntarism*); and (iii) they requested for the test (*high level voluntarism*).

A number of independent variables were also identified from the 2005 ZSBS data set (see Tables 1 and 2) and dichotomous variables were used throughout the analyses. As well as easing the interpretation of results, this was in order to have substantial numbers in each independent variable category given the relatively small sample size (729) and the fact that the dependent variable had multiple categories. Using a confidence interval of 95 percent, cross-tabulations and multinomial regression analyses were performed to examine the differentials in HIV testing voluntarism.

Multinomial regression analysis is used when individuals have more than two options (Allison, 1999 and Hosmer & Lemeshow, 2000). Whatever the number of options, the sum of probabilities for all options for each individual should be equal to 1. In this case, the probability of how one decided to test for HIV (*voluntarism*) is denoted by the following logarithmic equation:

$$\log\left(\frac{P_{i1}}{P_{i2}}\right)=\log\left(\frac{P_{i1}}{P_{i3}}\right)-\log\left(\frac{P_{i2}}{P_{i3}}\right)$$
$$= \beta_1 x_i - \beta_2 x_i$$
$$= (\beta_1-\beta_2) x_i$$

This implies that $\beta_3=\beta_1-\beta_2$

where:

P_{i1} = the probability that *voluntarism* = 1 for individual *i*
P_{i2} = the probability that *voluntarism* = 2 for individual *i*
P_{i3} = the probability that *voluntarism* = 3 for individual *i*
x_i = independent variable
$\beta_1, \beta_2, \beta_3$ = regression coefficients

Relevant excerpts from the 2006 ZHVCTS interviews were also included to complement quantitative meanings. These interviews were recorded using one or two of the following instruments: MP3 player, Dictaphone and notes.

Results and Discussion

Table 1 shows the percentage of respondents ever tested for HIV by level of voluntarism according to selected background characteristics. According to Table 1, nearly a majority of the respondents voluntarily decided to take an HIV test. Almost 40 percent of the respondents tested only after someone asked them to do so, while one in ten said they tested because it was a condition for them to do so.

Table 1. Percent distribution of respondents' level of HIV testing voluntarism by sex and selected background characteristics.

Background characteristics	Men				Women				Total			
	High level	Medium level	Low level	n	High level	Medium level	Low level	n	High level	Medium level	Low level	n
Sex												***
Male	-	-	-	-	-	-	-	-	72.5	13.7	13.7	211
Female	-	-	-	-	-	-	-	-	39.4	51.0	9.7	518
Age								*				**
15-24	68.2	9.1	22.7	44	35.1	57.8	7.1	211	40.8	49.4	9.8	255
25-49	73.7	15.0	11.4	167	42.3	46.3	11.4	307	53.4	35.2	11.4	474
Marital status												
Unmarried	69.6	14.3	16.1	56	45.8	48.6	5.6	107	54.0	36.8	9.2	163
Married	73.5	13.5	12.9	155	37.7	51.6	10.7	411	47.5	41.2	11.3	566
Has dependent children								*				
No	70.1	13.4	16.4	67	47.2	42.9	9.9	161	53.9	34.2	11.8	228
Yes	73.6	13.9	12.5	144	36.1	54.4	9.6	355	46.9	42.7	10.4	499
Religion												
Catholic	61.2	20.4	18.4	49	39.5	54.6	5.9	119	45.8	44.6	9.5	168
Non-Catholic	75.9	11.7	12.3	162	39.3	49.9	10.8	399	49.9	38.9	11.2	561
Religiosity												
High	72.2	13.6	14.2	169	40.6	49.9	9.5	473	48.9	40.3	10.7	642
Low	71.8	15.4	12.8	39	27.3	57.6	15.2	33	51.4	34.7	13.9	72
Ethnicity												*
Non-Bemba	74.1	11.1	14.8	27	42.0	46.6	11.4	88	45.5	42.0	12.4	459
Bemba	72.3	14.1	13.6	184	38.8	51.9	9.3	430	54.8	37.0	8.1	270
Residence								***				***
Urban	76.2	14.0	9.8	147	36.6	55.5	8.0	402	47.0	44.6	8.4	184
Rural	64.7	13.2	22.1	57	49.1	35.3	15.5	116	54.9	27.2	17.9	545
Employment status												***
Employed	71.4	14.3	14.3	154	40.7	47.2	12.0	216	53.5	33.5	13.0	370
Unemployed	75.0	11.5	13.5	52	38.2	53.8	8.0	301	43.6	47.6	8.8	353
Education												**
<Secondary	70.1	16.4	13.4	67	35.3	54.8	9.9	252	42.6	46.7	10.7	319
Secondary+	73.2	12.7	14.1	142	43.2	47.4	9.4	266	53.7	35.3	11.0	408
Region				**				**				***
Region 1	76.4	14.3	9.3	161	37.1	54.1	8.8	434	47.7	43.4	8.9	595
Region 2	60.0	12.0	28.0	50	51.2	34.5	14.3	84	54.5	26.1	19.4	134
Attitude towards PLWHA												
Less tolerant	70.4	13.9	15.7	115	37.3	53.6	9.1	362	45.3	44.0	10.7	477
More tolerant	75.5	13.8	10.6	94	44.8	43.4	11.7	145	56.9	31.8	11.3	239
HIV/AIDS knowledge level												**
Low	71.2	16.2	12.6	111	37.2	52.4	10.5	296	46.4	42.5	11.1	407
High	74.7	11.1	14.1	99	42.5	48.9	8.7	219	52.5	37.1	10.4	318
Source of HIV/AIDS information												
Media	78.3	15.9	5.8	69	38.7	47.9	13.4	119	53.2	36.2	10.6	188
Other	69.7	12.7	17.6	142	39.6	51.9	8.5	399	47.5	41.6	10.9	541
Sexual behaviour												
High risk	75.6	10.3	14.1	78	41.9	51.2	6.9	203	51.2	39.9	8.9	281
Low risk	70.7	15.8	13.5	133	37.5	50.8	11.4	315	47.5	40.4	12.1	448

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Background characteristics	Men				Women				Total			
	High level	Medium level	Low level	n	High level	Medium level	Low level	n	High level	Medium level	Low level	n
Year of previous test				**								**
Before 2004	64.1	10.9	25.0	64	32.5	55.0	12.6	151	41.9	41.9	16.3	215
2004/2005	76.2	15.0	8.8	147	42.2	49.3	8.4	367	51.9	39.5	8.6	514
Test centre								***				***
Government health centre	68.6	14.6	16.8	137	34.3	55.4	10.2	469	42.1	46.2	11.7	606
Other	79.5	12.3	8.2	73	89.6	6.3	4.2	48	83.5	9.9	6.6	121
Total	**72.5**	**13.7**	**13.7**	**211**	**39.4**	**51.0**	**9.7**	**518**	**49.0**	**40.2**	**10.8**	**729**

*≥0.010≤0.050; **≥0.001<0.010; ***<0.001.
Source: 2005 ZSBS data set.

Ten of the sixteen independent variables are significantly associated with how the decision to test was made. These are sex, age, having dependent children, ethnicity, residence, employment status, education, region, HIV/AIDS knowledge and year of previous test

Throughout Table 1, there are significant differences in the levels of voluntarism between men and women. Even though the data do not show who asked respondents to take the test, the low level of voluntarism among women is consistent with the role of the PMTCT programme in testing. Health workers are increasingly asking pregnant women to test for HIV. There is also a general notion among many health workers that testing should be made mandatory for pregnant women in order to protect unborn children from infection as well as to enable health institutions plan for the provision of ART and related services. One health specialist with the UNFPA health project in Solwezi argued:

> We test all pregnant mothers for syphilis using the RPR test... What is so special about HIV? Why can't we do the same?

Unlike women, men have fewer pressures that compel them to seek HIV testing. According to one male traditional chief in Solwezi:

> We need a lot of information. Right now, HIV testing is shrouded in mystery and uncertainty. I have heard about VCT in meetings but at a personal level, no situation has compelled me to undertake an HIV test. Like in this village, we do not have facilities where we can get the test. As long as these facilities are not available, it is difficult for me to stand by the road and tell people that I am going to Solwezi to find out my HIV status; more so if I think that my health is fine.

Table 1 also shows that there is more variation by socio-economic characteristics for women than men. Most men (73%) tested because they decided on their own while nearly four out of ten women (39%) requested for a test on their own volition. Actually most women who tested did so because someone asked them to take the test.

Education, employment status, HIV/AIDS knowledge and ethnicity are only significant for the total pattern and not for each sex. The seemingly more enlightened groups who are the employed, the more educated and those with high level of HIV/AIDS knowledge, have higher level of voluntarism than the unemployed, the less educated and those with low level of HIV/AIDS knowledge, respectively. The Bemba also had higher level of voluntarism than the Non-Bemba, suggesting that their dominance in major urban centres gives them more advantages than other ethnic groups.

For men, only region and year of previous test are significantly associated with voluntarism. Men in region 1 (Central, Copperbelt, Lusaka and Southern Provinces) show higher voluntarism than men in region 2 (Eastern, Luapula, Northern, North Western and Western Provinces). However, the opposite is true for women whose voluntarism level is higher for region 2 than region 1. This is because testing for women is largely dependent on the availability of VCT during antenatal care (ANC). Therefore, the high voluntarism in region 2 suggests that there is less integration of VCT with ANC services in many parts of region 2. The data also show that people are becoming more enlightened about HIV/AIDS as there is more voluntarism for an

HIV test among those who tested within a year (2004/2005) before the survey than those who tested before 2004. However, this is not significant for women.

For women, apart from region, their volition to seek a test also varies according to their age, dependent children and residence. Older women and those with dependent children show a higher level of voluntarism than younger women and those without dependent children, respectively. People with dependent children would be keener to know their HIV status so that they can adequately plan for them. Rural women also exhibit higher levels of voluntarism than their urban counterparts because VCT services are scarce in rural areas, thereby prompting rural women who direly need VCT to seek it on their own volition.

After controlling for all factors using the multinomial regression technique, seven of the eleven significant variables in Table 1 show a significant net effect on how the decision to test for HIV was made (Table 2). These variables are sex, age, ethnicity, residence, region and year of previous test. For low versus high level voluntarism (i.e. testing because it is required other than asking for the test), there are no significant differences between men and women, showing that there is no sex discrimination in the provision of compulsory tests.

Table 2 shows that only ethnicity, region, year of previous test, source of HIV/AIDS information, and test centre are significant for low versus high voluntarism. While region and year of previous test maintain their significance as in Table 1, having dependent children and region for women, are no longer significant.

Table 2. Odds ratios of having low and medium level versus having high level of HIV testing voluntarism by respondents' sex and selected background characteristics.

Background characteristics	Low versus High level of voluntarism						Medium versus High level of voluntarism					
	Men		Women		Total		Men		Women		Total	
	Exp(β)	n	Exp(β)	n	Exp(β)	n	Exp(β)	n	Exp(β)	n	Exp(β)	n
Sex												
Male	-	-	-	-	0.805	198	-	-	-	-	0.254***	198
Female†	-	-	-	-	-	489	-	-	-	-	-	489
Age												
15-24	2.950	42	0.857	204	1.195	246	0.297	42	1.781**	204	1.597*	246
25-49†	-	156	-	285	-	441	-	156	-	285	-	441
Marital status												
Unmarried	1.191	52	0.545	102	0.842	154	1.777	52	0.644	102	0.741	154
Married†	-	146	-	387	-	533	-	146	-	387	-	533
Has dependent children												
No	2.138	64	0.822	154	1.098	218	0.955	64	0.703	154	0.754	218
Yes†	-	134	-	335	-	469	-	134	-	335	-	469
Religion												
Catholic	1.399	45	0.609	114	0.907	159	2.082	45	1.234	114	1.291	159
Non-Catholic†	-	153	-	375	-	528	-	153	-	375	-	528
Religiosity												
High	0.842	161	0.303	456	0.696	617	1.139	161	0.454	456	0.652	617
Low†	-	37	-	33	-	70	-	37	-	33	-	70
Ethnicity												
Non-Bemba	2.463	114	1.645	314	1.820*	428	1.029	114	1.274	314	1.238	428
Bemba†	-	84	-	175	-	259	-	84	-	175	-	259
Residence												
Rural	1.928	65	1.071	112	1.183	177	0.914	65	0.433*	112	0.501*	177
Urban†	-	133	-	377	-	510	-	133	-	377	-	510
Employment status												
Employed	1.615	148	1.174	203	1.258	351	1.265	148	0.932	203	0.940	351
Unemployed†	-	50	-	286	-	336	-	50	-	286	-	336
Education												
<Secondary	0.483	64	1.180	234	0.900	298	1.282	64	1.282	234	1.234	298
Secondary+†	-	134	-	255	-	389	-	134	-	255	-	389
Region												
Region 1	0.164*	151	0.818	408	0.585	559	1.338	151	1.184	408	1.200	559
Region 2†	-	47	-	81	-	128	-	47	-	81	-	128
Attitude towards PLWHA												
Less tolerant	1.116	108	0.980	346	1.054	454	1.239	108	1.353	346	1.329	454
More tolerant†	-	90	-	143	-	233	-	90	-	143	-	233
HIV/AIDS knowledge level												
Low	1.038	107	1.182	283	1.219	390	1.780	107	1.196	283	1.303	390
High†	-	91	-	206	-	297	-	91	-	206	-	297
Source of HIV/AIDS information												
Media	0.533	64	2.257*	107	1.184	171	1.002	64	1.144	107	0.987	171
Other	-	134	-	382	-	516	-	134	-	382	-	516

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Background characteristics	Low versus High level of voluntarism						Medium versus High level of voluntarism					
	Men		Women		Total		Men		Women		Total	
	Exp(β)	n	Exp(β)	n	Exp(β)	n	Exp(β)	n	Exp(β)	n	Exp(β)	n
Sexual behaviour												
High risk	0.973	71	0.598	141	0.717	264	0.627	71	0.859	141	0.861	264
Low risk†	-	127	-	348	-	423	-	127	-	348	-	423
Year of previous test												
Before 2004	3.038*	60	1.9555	193	2.190**	199	0.803	60	1.860*	193	1.495	199
2004/2005†	-	138	-	296	-	488	-	138	-	296	-	488
Test centre												
Government health centre	1.353	127	7.052*	444	3.054**	571	1.323	127	19.944***	444	5.322***	571
Other†	-	71	-	45	-	116	-	71	-	45	-	116
Intercept	**0.074**	**-**	**0.096***	**-**	**0.082****	**-**	**0.062***	**-**	**0.079****	**-**	**0.198***	**-**
χ^2 value	**45.608**	**-**	**113.568*****	**-**	**184.833*****	**-**	**45.608**	**-**	**113.568*****	**-**	**184.833*****	**-**
df	**32**	**-**	**32**	**-**	**34**	**-**	**32**	**-**	**32**	**-**	**34**	**-**
Total (n)	**-**	**198**	**-**	**489**	**-**	**687**	**-**	**198**	**-**	**489**	**-**	**687**

*≥0.010≤0.050; **≥0.001<0.010; ***<0.001; †reference category; df=degrees of freedom.
Source: 2005 ZSBS data set.

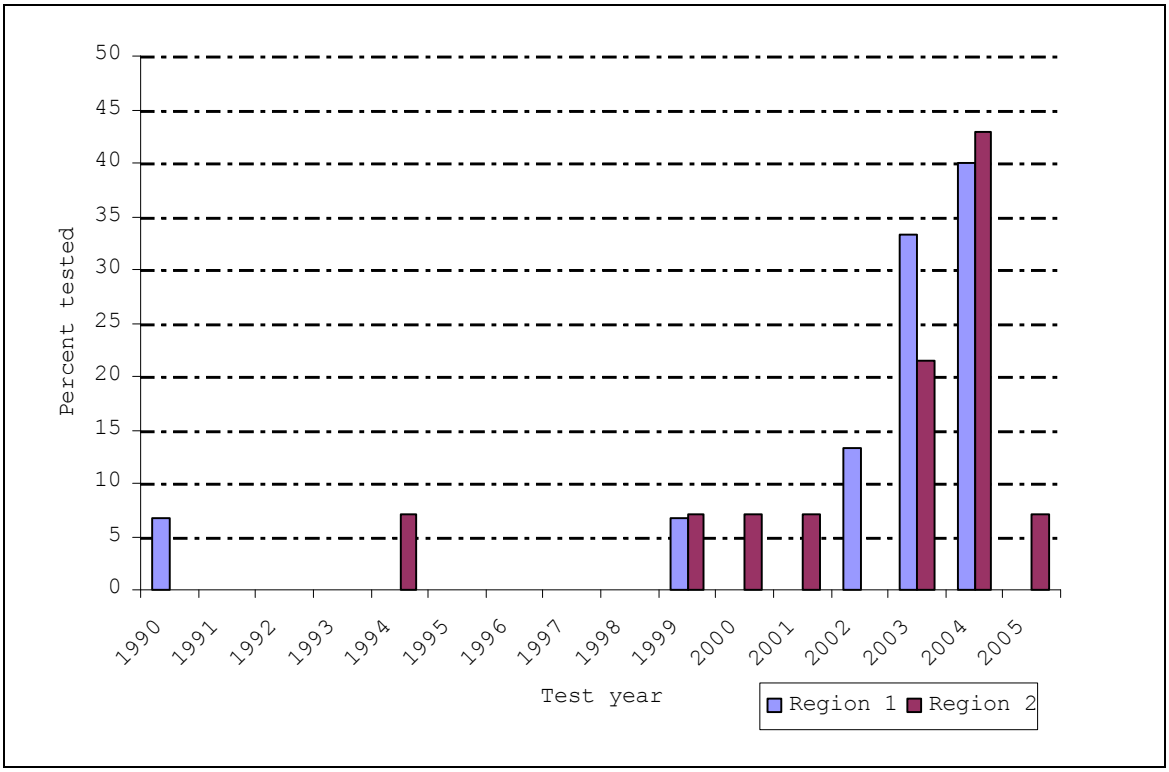
Ethnicity is only significant for the total pattern. The Non-Bemba ethnic groups show a higher likelihood of testing because it is a requirement other than seeking testing out of their own volition. The data do not show reasons for mandatory testing but visa, employment and scholarship applications have been cited as the main factors that may require people to undertake an HIV test (Yoder and Matinga, 2004). Those accused of sexual offences can also be compelled to undergo compulsory HIV testing even though the 2005 ZSBS does not show reasons for compulsory testing. According to Section 3.8.1(a) of Zambia's National HIV/AIDS Policy, the government shall legalise mandatory testing in case of persons charged with any sexual offence that could involve risk of HIV transmission (Ministry of Health [MOH], 2002:26).

The 2005 ZSBS did not ask men about their sexual offences but 393 women (17%) reported having had forced sex and 39 percent of these women had forced sex within 12 months before the survey. However, based on the 153 women who were forced to have sex during the 12 months before the survey, most (90%) of the culprits are usual partners (husband or boyfriend), who would not be compelled to have a test. Other sexual offenders reported by women include uncles, other male relatives, teachers, employers and former boyfriends.

There are also other factors, though not documented, for example marriage and health insurance, which may require people to take an HIV test. On this basis, this result could be understood to mean that the Non-Bemba were faced with one or more of such situations than the Bemba.

Region and test year are only significant for men. Men in region 1 are less likely to have tested because it is a requirement, than men in region 2. Men who tested before 2004 had higher odds of having a mandatory test instead of a voluntary one, than men who tested in 2004/5. This shows that circumstances that compel people to undergo mandatory tests change over time and from one region to another. Figure 2 shows the percentage of men who took a mandatory (required) test by region between 1990 and 2005.

Figure 2. Trends in mandatory testing among males by region, Zambia: 1990-2005 (n=79).



Source: 2005 ZSBS data set

For women, only source of HIV/AIDS information and test centre are significant on low versus high voluntarism. Women who got HIV/AIDS information from the modern media and those who tested from government health centres were more likely to undergo mandatory testing than women whose source of information was not from the modern media and women whose test was taken from a non-government health institution, respectively. This is because those who have access to the modern media are often among the more educated and may have more opportunities for travel, employment and scholarships. Some of these opportunities may compel them to undergo compulsory testing as part of the requirements. Furthermore, such tests often have a conditionality that they should be carried out in a government health institution.

As for medium versus high level voluntarism (i.e. having been requested to test other than asking for the test), there are also significant differences between men and women. Four other variables, namely; age, residence, year of previous test and test centre are significant on medium versus high level voluntarism but none of the variables are significant for men. Sex and test centre actually show the strongest effect with men having 75 percent less chances of being requested to test rather than asking for the test than women. Women who tested in government health centres are almost 20 times more likely to test because they were asked to do so rather than seek testing on their own. Again, this shows that most women tested for HIV because they were asked to do so.

Younger and urban women are also more likely to be requested rather than ask for the test than older and rural women, respectively. While younger women may not be in a better position to make decisions about testing than older women, these results also suggest some tendency by VCT providers to target younger women as HIV is more prevalent among young than old people (UNAIDS, 2004:77). In addition, age specific fertility rates peak around 20-24 years in Zambia (CSO et al., 2003:60), hence the likelihood that the testing patterns for younger women are linked to their reproductive behaviour. Similarly, urban women are more likely to be requested for a test than their rural counterparts because urban areas have more VCT facilities than rural areas. Women who tested before 2004 are also more likely to have been requested to test than women who tested during 2004/2005, showing that levels of voluntarism have increased over time.

Conclusion

Even though the principle of voluntarism has been emphasised in the provision of HIV testing services (UNAIDS, 2002:3; UNFPA and IPPF, 2004; WHO, 2004; UNAIDS, 2002; United Nations, 2001:4) the

low levels of voluntarism have negated speedy provision of support and care for persons who need these services. Contrary to the principle of voluntarism, provider-oriented testing has become a key strategy in identifying HIV-positive persons (WHO et al., 2007:49), a fact that is supported by the Zambian data.

Actually, provider-oriented testing, other than testing out of one's own volition, is the major factor making people test for HIV in Zambia. The only problem is that most of the provider-oriented testing target women through PMTCT and often leave out men. Younger women and those using public health institutions are more likely to be asked for an HIV test than older women and those using other health institutions, respectively. Apart from PMTCT, there are other conditions that compel people to undergo non-voluntary HIV testing but this is not very common as only 10 percent of respondents underwent such testing.

The issue of provider-oriented testing has raised some human rights concerns (Buchanan, 2005; Kippax, 2005) given the stigma and discrimination associated with HIV/AIDS. However, Kippax (2005:) also recognise that the success story of Australia in controlling HIV/AIDS was through provider-oriented testing coupled with enactment of legal frameworks to protect PLWHA. The obvious question that arises is whether Australia was going to make this achievement if it had solely relied on the principal of voluntarism in identifying HIV-positive persons.

This paper has demonstrated that much of the HIV testing that has taken place in Zambia has not been voluntary in the strict sense as majority (51%) of the ever tested persons were compelled to do so. This observation shows that the provider-oriented testing approach is more effective than the voluntarism approach. Therefore, there is need to amend government policy on HIV testing so that more realistic approaches can be adopted in the identification of HIV-positive persons. For example, making

PMTCT-related tests compulsory for couples as well as introducing routine testing in schools would cushion government's treatment and prevention programmes but such amendments should be accompanied by specific legislation to protect PLWHA against any form of discrimination. Furthermore, this paper has no evidence on how gender relations affect voluntarism but the above amendments could overcome any perceived gender-related obstacles to HIV testing.

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