Original article

Assessment of the utilization of pre-marital HIV testing services and determinants of VCT in Addis Ababa, 2003

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Abstract

Background: Pre-marital HIV testing contributes to the prevention of HIV infection by diminishing heterosexual transmission between partners and indirectly also protects any potential child from contracting the virus.

Objectives: To assess the utilization and determinants of pre-marital HIV testing in civil marriages taking place at the Addis Ababa City Hall Marriage Licensing Center.

Methods: A cross-sectional study was made on men and women at their civil marriage ceremonies. Interviews were conducted on a one - to - one basis, and a separate analysis was performed for each sex.

Results: Out of the 640 individuals (320 males and 320 females) who underwent civil marriage, 55% reported having had pre-marital HIV testing. The main reason given for not having HIV testing was that the interviewees did not feel at risk of acquiring HIV/AIDS. Individuals of both sexes who had frank discussion as a couple about HIV were found to be more likely to have pre-marital HIV testing (adjusted ORs 10.96, 95% CI 3.7 to 33.3 for men and 7.78, 95% CI 2.86 to 20.0 for women). The VCT schemes preferred by most respondents included; integrated VCT centers, confidential testing, appointing medical doctors as counselors, and face-to face disclosure of VCT results.

Conclusion: Based on these findings, the promotion of discussion between couples about HIV and VCT through intense IEC activities as well as involving marriage agencies to encourage such discussion is recommended. [*Ethiop.J.Health Dev.*2006;20(1):18-23]

Introduction

Voluntary counseling and testing (VCT) for HIV has been shown to play a significant role in HIV prevention. For people with HIV infection, VCT acts as an entry point of care and support. VCT also provides people with an opportunity to learn about and accept their HIV sero-status in a confidential manner backed by counseling and referral for ongoing emotional support and medical care. Counseling and testing can also be provided to couples who wish to attend sessions together. This has been shown to be a successful approach in some countries. Counseling is important to help HIV discordant couples accept safer sex practices to prevent HIV transmission to the un-infected partner. Couple counseling on HIV can, thus, be provided as part of pre-marital counseling (1).

Most HIV infection in sub-Saharan Africa occurs due to heterosexual intercourse between couples in a relationship. Women who are infected by an HIV positive partner risk infecting their infants in turn. Despite their importance as social contexts for sexual activity and HIV infection, couple relationships have not been given adequate attention. Studies done in various parts of Africa revealed that VCT is associated with reduced risk behaviors and lower rates of sero-conversion among sero-discordant heterosexual couples. Increased attention on couple-focused VCT services provides a high leverage HIV prevention intervention for African countries (2).

Documentation in VCT centers in Addis Ababa has shown that both couples already in union and couples preparing to be married visit the centers. In a report on VCT centers in Addis Ababa run by CARE International, it was indicated that out of the 2,179 clients who accessed VCT services, 9.4% were couples (3). Another study in Addis Ababa revealed that 106 (11.1%) of the 953 people attending VCT sought the service as a prerequisite before marriage (4). Data analysis among 7,773 people attending VCT at Bethzatha Clinic (also in Addis Ababa) showed that the reason for testing given by the majority was to know their status while only 10% of them sought the services as pre-marital check ups (5).

A range of studies conducted in different settings indicate that sex, race, education, occupation and risk perception are the main determinant factors for seeking HIV testing, but the results were inconsistent across studies (6-9). The rate of pre-marital HIV testing at VCT centers in Addis Ababa is reported to be low and there are no clear reasons for this. A Masters thesis written prior to this study documented that nearly 74% of young people in Harar town, south east Ethiopia, had the intention of asking their spouses to undergo VCT before marriage (10). This study was, therefore, conducted to assess the utilization and determinants of pre-marital HIV testing in civil marriages taking place at the Addis Ababa City Hall.

Methods

Study setting: The study was conducted at the Addis Ababa City Hall where civil marriages take place.

Sample size: With the assumption that 72.6% of the couples would have sought HIV testing (10), a sample size of 325 male and 325 female participants was

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calculated with a margin of error of 0.05 and a 5% level of significance.

Sampling strategy: The study participants were selected by convenience sampling, such that every time the interviewers were free, the couple whose papers had just been accepted were requested to spend their waiting time (approximately 45 minutes), responding to the questionnaire.

Data collection and Data quality: A structured questionnaire was employed that consisted of sections on socio-demographic variables, sexual history, and knowledge of STD/HIV and VCT. It was adapted from the standard questionnaire used in BSS and WHO surveys. Pre-testing of the questionnaire was performed using couples not included in the study to verify clarity of the instruments and to familiarize the interviewers with them. Two health workers-one male and one female were selected as data collectors. They were given two days of training by the principal investigator on the instruments and methods of data collection. They were also given a manual on interview procedures and on ways of administering the questionnaire. Data collection was carried out from January 1, 2003 to February 16, 2003. The principal investigator checked the collected data for completeness, accuracy, clarity and consistency throughout the data collection period.

Data analysis: Data were entered into EPI Info version 6.04d software. EPI Info version 6.04d and SPSS-10 software were used to compute frequencies and odds ratios and to work out multiple logistic regressions. Self-reported pre-marital HIV testing was the dependent variable. Independent variables included socio-economic and demographic variables, sexual history variables, knowledge variables about STD/HIV/VCT, risk perception, and discussion about HIV/VCT between couples.

Ethical Considerations: Ethical approval was obtained from the Research and Publications Committee of the Medical Faculty of Addis Ababa University. Individuals in a couple were interviewed separately and there was no communication of responses between couple members. After the interview, the participants were informed of the benefits of VCT and were also given practical advice about where they could obtain VCT services.

Results

A total of 640 individuals (320 males and 320 females) who underwent civil marriage in Addis Ababa City Hall were enrolled in this study. The majority of the respondents were in the age group of 25-34 years (59.4%), 62% were Amharas by ethnicity and 87.2% were Orthodox Christians by religion. More than 50% of the respondents had educational levels of secondary school and above. The socio-demographic characteristics of the participants are summarized in Table 1.

The mean age for male and female subjects was 33.1 and 26.7 years respectively. The age range in males was 22-69 years while that of females was 17-43 years. Pre-marital sexual contact within the relationship was reported by 87.2% and 88.4% of male and female respondents respectively. All the respondents claimed to have heard about HIV/AIDS with 78.8% having adequate knowledge in terms of its transmission and prevention methods. Regarding VCT, 91.4% said they had heard about VCT while 76.4% said they were aware of the existence of centers providing VCT services.

Out of the total number of respondents, 356 (55.6%) had had pre-marital HIV testing (56.6% of males and 54.7% of females). The remaining 284 did not have pre-marital HIV testing, and the reasons given for not doing so were reported to be not feeling at risk (57.8%), having never thought about it (23.9%), having had HIV testing for another reason (8.1%), fear of a positive test result (4.9%), and fear of stigma (4.6%).

Socio-demographic variables, previous sexual history, knowledge about HIV/VCT and self perceived susceptibility were not found to be significantly associated with having had pre-marital HIV testing. However, discussion between partners about HIV was found to be strongly associated with pre-marital HIV testing in both sexes (ORs adjusted for socio-demographic and knowledge variables 11.2 (95% CI 3.70 to 33.3) and 7.78 (2.86 to 20.0) for males and females, respectively). Equally, discussion about VCT between partners was strongly associated with pre-marital HIV testing (adjusted ORs 11.0 (95% CI 4.0 to 25.0) and 10.0 (3.7 to 25.0) for males and females, respectively, Tables 2 and 3).

Among all the respondents, 398 (62.2%) preferred HIV testing to be given together with other health services while 228 (35.6%) favored a self-standing VCT center. With regard to methods, 309 (48.3%) favored confidential HIV testing, 192 (30%) non-confidential and 139 (21.7%) anonymous testing. Medical doctors were the preferred counselors for 256 (40%) of the respondents, the remainder saying they preferred trained counselors (34.2%), HIV-infected counselors (12.5%), religious leaders (7.2%) and nurses (5.6%), as indicated on Figure 1. Most (94.6%) said they preferred to hear of their HIV test results through face-to-face meetings and the rest mentioned through private letters, telephone and via spouses.

Health workers, the mass media and friends were the information sources most often cited for knowledge on HIV and VCT. Schools, parents, neighbors and religious leaders were also major information sources for HIV but not for VCT.

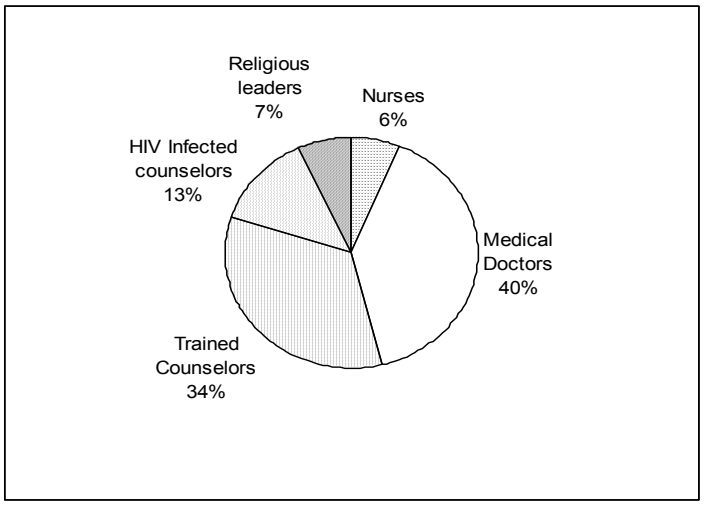

Figure 1: **Preferred counselors chosen for VCT by males and females (n=640) undertaking civil marriage at Addis Ababa City Hall, 2003.**

Table 1: **Socio-demographic characteristics of the study participants, Addis Ababa City Hall, 2003.**

Characteristics	Male N=320 No (%)	Female N=320 No (%)	Total N=640 No (%)
Age in Years			
15-19	---	14 (4.4)	14 (2.2)
20-24	16 (5)	90 (28.1)	106 (16.6)
25-29	76 (23.8)	132 (41.3)	208 (32.5)
30-34	110 (34.4)	62 (19.4)	172 (26.9)
35-39	73 (22.8)	19 (5.9)	92 (14.4)
40-44	31 (9.7)	3 (0.9)	34 (5.3)
45 and above	14 (4.4)	---	14 (2.2)
Ethnicity			
Amhara	181 (56.6)	216 (67.5)	397 (62)
Oromo	60 (18.8)	37 (11.6)	97 (15.2)
Tigre	43 (13.4)	33 (10.3)	76 (11.9)
Gurage	29 (9.1)	32 (10)	61 (9.5)
Others	7 (2.2)	2 (0.6)	9 (1.4)
Religion			
Orthodox	278 (86.9)	280 (87.5)	558 (87.2)
Protestant	23 (7.2)	23 (7.2)	46 (7.2)
Catholic	5 (1.6)	3 (0.9)	8 (1.3)
Muslim	11 (3.4)	11 (3.4)	22 (3.4)
Others	3 (0.9)	3 (0.9)	6 (0.9)
Education			
Grades 0-6	4 (1.3)	4 (1.3)	8 (1.3)
Grades 7-8	9 (2.8)	18 (5.6)	27 (4.2)
Grades 9-12	120 (37.5)	208 (65)	328 (51.3)
Diploma	115 (35.9)	82 (25.6)	197 (30.8)
BA/BSC+ holders	72 (22.5)	8 (2.5)	80 (12.5)
Occupation			
Unemployed	---	78 (24.4)	78 (12.2)
Civil Servant	110 (34.4)	58 (18.1)	168 (26.3)
House wife	---	56 (17.5)	56 (8.8)
Self employed	111 (34.7)	81 (25.3)	192 (30)
Private sector	88 (27.5)	19 (5.9)	107 (16.7)
Others	11 (3.4)	28 (8.8)	39 (6.1)
Monthly income			
No personal income	---	152 (47.5)	152 (23.8)
50-150 Eth. Birr	5 (1.6)	4 (1.3)	9 (1.4)
151-300 " "	11 (3.4)	28 (8.8)	39 (6.1)
301-600 " "	56 (17.5)	51 (15.9)	107 (16.7)
601-1000 " "	51 (15.9)	47 (14.7)	98 (15.3)
1001-1550 " "	37 (11.6)	14 (4.4)	51 (8)
1501& above " "	58 (18.1)	14 (4.4)	72 (11.3)
Don't know	82 (25.6)	1 (0.3)	83 (13)
No response	20 (6.3)	9 (2.8)	29 (4.5)

Table 2: **The association of knowledge of HIV/VCT, risk perception and discussion with pre-marital VCT in males undertaking civil marriage at Addis Ababa City Hall, 2003.**

Characteristics	Male pre-marital VCT			Adjusted OR (95% CI)**
	Yes	No	Crude OR (95% CI)	
Knowledge on HIV transmission				
Adequate	115	83	1.18 (0.73-1.9)	1.26 (0.78-2.05)
Inadequate	66	56	1.00	
Knowledge on HIV prevention				
Adequate	98	64	1.38 (0.87-2.21)	1.23 (0.77-1.97)
Inadequate	83	75	1.00	
Perceived risk of HIV				
Yes	3	---	1.00	
No	178	139	0.43 (0.01-5.39)	
Knowledge of Health of HIV carrier				
Yes	138	95	1.00	
No	43	44	0.67 (0.4-1.14)	0.61 (0.37-1.01)
Knowledge about STDs				
Yes	173	132	1.00	
No	8	7	0.87 (0.27-2.9)	0.9 (0.32-2.57)
Knowledge about VCT				
Yes	181	136	1.00	
No	----	3	0.25 (0-3.17)	
Discussed about HIV with fiancée				
Yes	177	111	**11.2 (3.70-50.0)**	**11.2 (3.70-33.33)**
No	4	28	1.00	1.00
Discussed about VCT with fiancée				
Yes	176	106	**10.0 (4.0-33.3)**	**11.0 (4.0-25.0)**
No	5	33	1.00	1.00
Disclosure of HIV positive result to a marriage partner				
Yes	171	136	1.00	
No	10	3	2.65 (0.66-15.2)	2.48 (0.66-9.32)
Measures to take if found HIV positive Divorce				
Yes	43	25	1.00	
No	138	114	0.70 (0.39-1.26)	0.69 (0.38-1.27)
Strengthen sexual relationships				
Yes	39	40	1.00	
No	142	99	1.47 (0.85-2.53)	1.28 (0.74-2.2)

** Adjusted for socio-demographic and knowledge variables

Discussion

The study showed that 56.6% of the males and 54.7% of the females had undergone pre-marital HIV testing. This relatively high prevalence of pre-marital HIV testing should be interpreted with some caution for a number of reasons. Firstly, the study team was unable to independently check self-reports of HIV testing, and thus there is the possibility that the prevalence may be inflated by social desirability bias. Secondly, couples getting married at the Addis Ababa City Hall may not represent the whole population of marrying couples in Addis Ababa. According to the vital registration report of the Central Statistical Authority of 2000, 28.4% of the marriages taking place in Addis Ababa were civil, 32.3% were religious and the remainder were customary or of another type (11). The participants in this study represent those undertaking civil marriage and thus may not represent those undertaking other forms of marriage, who may differ in their likelihood of having pre-marital HIV testing for reasons of economic or religious background. The participants in this study were of higher educational status, were more likely to be in employment and had a higher income than the general population in Addis Ababa (Table 1). All these characteristics have been associated with having HIV testing in previous studies (6-8).

A range of reasons was cited for those who did not undergo HIV testing. A study done in Harar (10) indicated that 73.6% of the respondents intended to ask their marriage partners for HIV testing. This study found that a considerably lower proportion of the participants had had testing in practice. Studies have also shown that intention and the actual practice of HIV testing do not correlate, as was indicated in a Zambian community-based study (12). Even though more than half of the people getting married had had HIV testing, it does not mean that the situation is satisfactory as there are reports that those declining HIV testing are at greater risk of being HIV positive than those that accept HIV testing (13). For programs to effectively prevent HIV/AIDS, more emphasis is, thus, required on pre-marital HIV testing.

Despite the fact that many respondents had had sexual contacts, with most of them not using condoms

Table 3: **The association of knowledge of HIV/VCT, risk perception and discussion with pre-marital VCT in females undertaking civil marriage at Addis Ababa City Hall, 2003.**

Characteristics	Female pre-marital VCT			Adjusted OR (95% CI)**
	Yes	No	Crude OR (95% CI)	
Knowledge on HIV transmission				
Adequate	169	6	1.64 (0.49-5.9)	1.57 (0.51-4.8)
Inadequate	137	8	1.00	
Knowledge on HIV prevention				
Adequate	139	109	1.28 (0.73-2.23)	1.29 (0.74-2.22)
Inadequate	36	36	1.00	
Perceived risk of HIV				
Yes	1	3	1.00	
No	174	142	3.68 (0.29-194.1)	4.21 (0.43-41.04)
Knowledge of Health HIV carrier				
Yes	158	125	1.00	
No	17	20	0.67 (0.32-1.42)	0.68 (0.33-1.38)
Knowledge about STDs				
Yes	152	114	1.00	
No	23	31	0.56 (0.29-1.05)	0.58 (0.3-1.13)
Knowledge about VCT				
Yes	143	125	1.00	
No	32	20	1.4 (0.73-2.72)	1.29 (0.68-2.45)
Discussed about HIV with fiancée				
Yes	170	118	**7.78 (2.86-25.0)**	**7.78 (2.86-20.0)**
No	5	27	1.00	1.00
Discussed about VCT with fiancée				
Yes	170	112	**10.0 (3.70-33.3)**	**10.0 (3.70-25.0)**
No	5	33	1.00	1.00
Disclosure of HIV positive result to marriage partner				
Yes	147	139	1.00	
No	28	6	**4.41 (1.72-13.4)**	4.34 (0.67-11.25)
Measures to take if found HIV positive Divorce				
Yes	53	39	1.00	
No	122	106	0.85 (0.5-1.42)	0.84 (0.5-1.41)
Strengthen sexual relationships				
Yes	4	12	1.00	
No	171	133	**3.86 (1.13-16.7)**	3.77 (0.16-12.21)

** Adjusted for socio-demographic and knowledge variables

consistently, only a minority (1.1%) perceived themselves to be at risk of HIV/AIDS. The 2002 MOH BSS preliminary report (Ethiopia) has revealed that self-perception of risk is very low in almost all target groups, even in those practicing risky behavior (14). Studies have shown that individuals who knew they were at high risk for HIV/AIDS were more receptive for interventions and HIV testing (8, 15). Low self-perception of risk as a reason for not seeking HIV testing was also reported by studies done in different settings (6, 16). This indicates that more work is needed to make the public aware of risk behaviors that indirectly contribute to the acceptance of interventions including HIV testing.

In this study, socio-demographic factors and past sexual history were not found to be predictive of pre-marital HIV testing. Similar results have been documented in studies undertaken in a range of settings (6-8). Knowledge factors about STD/HIV/VCT were not found to be significantly associated with pre-marital HIV testing. Other studies have shown that having adequate knowledge about HIV/AIDS does not necessarily guarantee behavioral change (15, 16). HIV/AIDS intervention programs, thus, need to focus on behavior change in addition to the dissemination of health information.

Male and female respondents who had held free discussions about HIV and VCT with their marriage partners were found to be more likely to make use of pre-marital HIV testing services. There are also reports that couples who discuss AIDS between themselves practice less risky behaviors than those who do not undergo discussions (15).

The VCT schemes preferred by most respondents included setting up integrated VCT centers, ensuring confidential testing, appointing medical doctors as counselors, and arranging face-to-face ways of disclosing VCT results. Schools, parents, neighbors and religious leaders were found to be major information sources about HIV but not about VCT. Similar preferences concerning

VCT schemes were reported in a community based study done in Harar (10). A significant minority (19.7%) of the participants in this study favored the use of PLWHA's and religious leaders as counselors. There are also successful experiences in central Africa in using traditional healers and in Uganda in involving People Living with HIV/AIDS as counselors (15, 16).

In conclusion, the study found that most of the couples practiced pre-marital sex hence HIV testing before the onset of sexual contact is advised. Inconsistent condom use and almost no self perceived risk in this study point towards giving more attention to convincing people about their risk behavior and the promotion of consistent condom use for any sexual contact not preceded by HIV testing. Encouraging couples' discussion on HIV/VCT through intense IEC activities by involving the mass media, marriage agencies, schools, work places, mass organizations and parents is also recommended. Education about VCT should be addressed by marriage agencies, schools, parents, neighbors, elders and religious leaders in addition to health workers and the mass media. Alternative counselors like PLWHA and religious leaders might be considered in future VCT activities.

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