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Extended Abstract

HIV testing uptake among individuals and couples at the community level – the case of Kilifi district, Kenya

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Background and objectives

In Kenya, HIV prevalence among adults aged 15-49 is 7.8%, 10% of monogamous couples (and 14% of polygamous couples) are living with HIV with one or more partners infected, 36% of the population has been tested for HIV, and 83% of HIV-infected individuals do not know their correct HIV status [1]. Given the important role that HIV testing can play in primary and secondary prevention of HIV transmission [2], a variety of approaches aimed at promoting and delivering HIV testing services have been developed and implemented at the national and local level. These include client-initiated (e.g. VCT) and provider-initiated testing services (e.g. routine opt-out testing at health facilities). This research uses Kilifi district (Coast Province, Kenya) to investigate the extent, nature and acceptability of HIV testing, drawing comparisons across gender and location (urban/rural).

Setting

Kilifi has an HIV prevalence of 5% (Kilifi District Hospital, ANC 2005) [3]. It is predominantly rural, women marry early, polygamy is practised, fertility is high and education levels are low; it is one of the poorest districts in Kenya[4]. In Kilifi Town, HIV prevalence is estimated at 10% among women and 5% among men; the discordancy rate is estimated at 9% among couples (2004) [5].

In Kilifi district, government-run services are comprised of VCT services, as well as diagnostic testing and routine opt-out testing through health facilities (mainly in the context of antenatal care and prevention of mother-to-child transmission). In addition, KEMRI-initiated (Kenya Medical Research Institute) activities, in place since 2003, have focused on promoting couple-testing through awareness-raising (mainly in Kilifi Township), partner invitations for testing, and the establishment of a VCT centre focusing on couple-counselling.

Methods

Questionnaires (n=630) were administered to a random sample of the population in a rural (Sokoke, n=308) and an urban site (Kilifi Town, n=322) within the Demographic Surveillance System (DSS). The questionnaires were conducted at the household-level among a random sample of the population, 15-49 years old, male and female. The random sample was computer-generated from the DSS database. The questionnaires had four sections, with questions on socio-demographics, sexual behaviour, uptake of HIV testing services, and reach of prevention activities. They were administered over the course of June-November 2007. Double data entry was carried out using FoxPro 6.0, and data were analysed using STATA 9.

Results

Table 1 shows the prevalence (%) of HIV testing among the general population (15-49 years old) in the urban and rural sites in Kilifi district. Testing levels were significantly higher among the urban respondents and women. HIV testing levels in Kilifi district were similar to national level data, with similar differences across location (urban/rural) and gender.

Table 1: Prevalence (%) of HIV testing among the general population (15-49 years old)

% (n)	Total	Location			Gender		
		Urban	Rural	p	Male	Female	p
Kilifi district (study):							
Among the general population	32 (202/630)	42 (134/322)	22 (68/308)	0.000	21 (69/324)	43 (133/306)	0.000
Among sexually active individuals	42 (193/459)	50 (127/253)	32 (66/206)	0.000	29 (64/221)	54 (129/238)	0.000
National data [1]							
Among the general population aged 15-49	36	50	30		25	43	

Table 2 investigates differences in HIV testing (%) among sexually active individuals across a variety of socio-demographic and sexual-related indicators. Testing levels were significantly higher ($p<0.05$) among individuals who: lived in the urban site, were female, were married/cohabiting, had children, were educated beyond primary level, had not engaged in higher-risk sex (i.e. sex with a non-marital/non-cohabiting partner, as per the 2003 Kenya Demographic and Health Survey definition), and had attended an event on HIV prevention. Differences across age, employment status, polygamous versus monogamous marriages, and contraceptive use were not significant ($p<0.05$) (not shown in table 2).

Table 2: Prevalence of testing (%) across socio-demographic and sexual-related indicators (among sexually active individuals).

Variable	% ever tested (n)	% never tested (n)	p
Location			
Kilifi Town (urban)	50 (127/253)	50 (126/253)	0.000
Sokoke (rural)	32 (66/206)	68 (140/206)	
Gender			
Male	29 (64/221)	71 (157/221)	0.000
Female	54 (129/238)	46 (109/238)	
Marital status			
Married/cohabiting	51 (147/291)	49 (144/291)	0.000
Non-married/non-cohabiting	27 (46/168)	73 (122/168)	
Children			
With children	50 (163/327)	50 (164/327)	0.000
No children	23 (30/131)	77 (101/131)	
Education			
Beyond primary	51 (68/133)	49 (65/133)	0.012
Not beyond primary	38 (125/326)	62 (201/326)	
"Higher-risk" sex (i.e. with a non-marital/non-cohabiting partner)			
Never engaged in higher-risk sex	50 (81/161)	50 (80/161)	0.009
Ever engaged in higher-risk sex	38 (110/292)	62 (182/292)	
Awareness event on HIV prevention			
Ever attended	50 (109/217)	50 (108/217)	0.001
Never attended	34 (83/241)	66 (158/241)	

Table 3 provides insights on the testing location among individuals who have ever been tested. The majority of respondents (65%) had been tested in the hospital setting (mainly at the Kilifi District Hospital) – with higher levels among women versus men. VCT centres, clinics and door-to-door / mobile VCT services played a secondary role to the hospital setting. The majority of women (78%) had been tested in a hospital, mainly in the context of PMTCT (prevention of mother-to-child transmission) (71%, not shown). Among men, HIV testing in a hospital setting (40%) and VCT testing services (33%) both played an important role. The majority of respondents (69%) had been tested within the past year, with no significant differences across location and gender (not shown).

Table 3: Location of testing among individuals ever tested for HIV

% (n)	Overall	Location			Gender		
		Kilifi Town	Sokoke	p	Male	Female	p
Hospital	65 (130/199)	63 (82/131)	71 (48/68)	0.261	40 (27/67)	78 (103/132)	0.000
Clinic	9 (18/199)	6 (8/131)	15 (10/68)	0.045	10 (7/67)	8 (11/132)	0.623
VCT centre	18 (35/199)	21 (28/131)	10 (7/68)	0.052	33 (22/67)	10 (13/132)	0.000
Door-to-door / mobile clinic	8 (16/199)	10 (13/131)	4 (3/68)	0.175	16 (11/67)	4 (5/132)	0.002

Table 4 examines the extent of individual, partner and couple-testing among respondents in married or cohabiting relationships. 51% of individuals had been tested, with higher levels among urban and female respondents. 38% reported that their partner had been tested,[1] with higher levels among urban and male respondents.

25% of individuals were in relationships where both partners had been tested (mainly separately), with higher levels among urban respondents. 3.2% of married/cohabiting individuals had been tested together as a couple, with no significant differences ($p<0.05$) across location and gender.

When asked their own and/or partner's status, all respondents indicated that they and/or their partner were HIV-negative. HIV-positive individuals and sero-discordant couples were therefore not detected through the questionnaire.

[1] Among respondents who indicated their partner had been tested, 99% knew their partner's status.

Table 4: Extent of self, partner and couple-testing among individuals in a married/cohabiting relationship

% (n)	Overall	Location			Gender		
		Kilifi Town	Sokoke	p	Male	Female	p
Ever tested (individual)	51 (147/291)	58 (99/170)	40 (48/121)	0.002	36 (43)	60 (104)	0.000
Partner tested	38 (105/279)	44 (72/162)	28 (33/117)	0.006	54 (61/114)	27 (44/165)	0.000
Dual testing (both partners tested, not necessarily together)	25 (69/279)	33 (53/162)	14 (16/117)	0.000	31 (35/114)	21 (34/165)	0.055
Couple-testing	3.2 (9/279)	3.7 (6/162)	2.6 (3/117)	0.595	3.5 (4/114)	3.0 (5/165)	0.824

The acceptability of HIV testing was high, with 72% of respondents reporting that they would accept an HIV test if offered at the home, with no significant differences across location and gender (table 5). Among sexually active respondents who said they would refuse the HIV test (22%), the main reasons were: fear of HIV and testing, they already knew their status or had already been tested, and they "trusted themselves."

Table 5: Acceptability of HIV testing

	Overall	Location			Gender		
	% (n)	Kilifi Town % (n)	Sokoke % (n)	p	Male % (n)	Female % (n)	p
Acceptability[1]							
Would accept an HIV test if offered at the home, *among all respondents*	72 (183/254)	68 (85/125)	76 (98/129)	0.157	72 (119/165)	72 (64/89)	0.971
Would accept an HIV test if offered at the home, *among all respondents who have ever had sex*	72 (134/187)	67 (70/104)	77 (64/83)	0.140	72 (83/116)	72 (51/71)	0.967
Main reasons cited among sexually active respondents who said they would refuse an HIV test (n=41/187, 22%)	Fear of HIV and testing (11) Already know their status (14; three of whom specified they had been tested) "Trust themselves" (6) Do not want to test (5) Have not yet decided to go (3) Have not engaged in any risky behaviour (2)						

[1] Question introduced midway through data collection, asked to 254 individuals

Among individuals who were not sexually active, 39% of respondents indicated that they did *not* intend to use condoms at first intercourse, with higher levels among urban and female respondents. When asked for the reason, 80% indicated that they would go for an HIV test with their partner, with no significant difference across

location and gender (table 6). In practice, however, 27% (n=46/168) of the sexually active non-married respondents had gone for an HIV test themselves (not shown).

Table 6: Intention to receive an HIV test among non-sexually active individuals

Among individuals who never engaged in sex	Total	Location			Gender		
	% (n)	Kilifi Town % (n)	Sokoke % (n)	p	Male % (n)	Female % (n)	p
Intends to use a condom at first sex							
Yes	33 (56/170)	43 (29/68)	26 (27/102)	0.028	42 (43/102)	19 (13/68)	0.002
No	39 (66/170)	47 (32/68)	33 (34/102)	0.072	30 (31/102)	51 (35/68)	0.006
Undecided	28 (28/170)	10 (7/68)	40 (41/102)	0.000	28 (28/102)	29 (20/68)	0.781
Reason for *not* intending to use a condom at first sex							
Will go for an HIV test with partner (versus "other"[1])	80 (53/66)	72 (23/32)	88 (30/34)	0.095	77 (24/31)	83 (29/35)	0.579

[1] The reasons cited under the category "other" included: distrust in the product (4), trust in the partner (2), lack of knowledge about condoms (1), does not see the importance of using condoms (1), does not want to use condoms (1), pre-marital sex and condom use are against religion (1), has not considered it (1), thinks condoms won't be available (1).

In the context of the questionnaire's section for final comments, 20 individuals raised questions relating to HIV testing. These highlighted individuals' interest in HIV testing, as well as pointed to some of their uncertainties and misconceptions. These included: logistical queries about accessing VCT services (directions, opening hours, cost of test, time to obtain test results, individual versus couple-testing); request for increased door-to-door/mobile VCT services (due fear and/or time constraints of going to a VCT centre); request for increased awareness activities (e.g. in churches); and treatment-related concerns (availability, form in which treatment is taken, nature and detection of HIV symptoms). Misconceptions with respect to sero-discordance were apparent, as several men asked whether they still needed to test for HIV if their partner had tested negative.

Conclusions

With a multiplicity of testing services available in Kilifi district, testing levels among the general population were relatively high, with variations across socio-demographic and sexual-related indicators. Kilifi District Hospital, with its routine

opt-out services (either through diagnostic testing services or in the context of PMTCT), was the main testing site. Levels of testing were especially high among women, the majority of whom received testing in the context of antenatal care and PMTCT. While couple-testing has been actively promoted since 2003, only 25% of married/cohabiting individuals had been tested as well as their partner, and 3% had received couple-testing. With a high level of acceptability of HIV testing at the community level, increased efforts aimed at bringing testing services to individuals through door-to-door and mobile VCT are encouraged. At the same time, efforts must continue to build on the powerful reach of provider-initiated testing services through public health facilities. These should include invitations/outreach to patients' partners, especially in the context of women attending antenatal care/PMTCT.

References

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