

ORIGINAL RESEARCH ARTICLE

Responsiveness to HIV Education and VCT Services among Kenyan Rural Women: A Community-Based Survey

Paul Bundi Karau¹, Mueni Saumu Winnie², Muriira Geoffrey³, Mukuthuria Mwenda⁴

¹Department of Human Anatomy, the University of Nairobi; ²P.C.E.A Chogoria Mission Hospital, Kenya; ³Kenya Bureau of Standards, Nairobi; ⁴Faculty of Arts and Social Sciences, Chuka University College.

*For Correspondence: Paul Bundi Karau. E-mail: pbkarau@gmail.com.

Abstract

Uptake of VCT and other HIV prevention strategies among rural African women is affected by various socio-cultural and economic factors which need elucidation. Our aim was to establish the responsiveness to HIV education among rural women attending three dispensaries in Kenya. This study was designed to assess gender and psycho-social factors that influence HIV dynamics in rural Kenya. This was a cross-sectional questionnaire based study of 1347 women, conducted in October 2009. Socio-economic status as well as knowledge on methods of HIV transmission was assessed. Testing status, knowledge on existing VCT services and willingness to share HIV information with their children was assessed. Majority of the women have heard about VCT services, but significantly few of them have been tested. Those with secondary school education and above are more knowledgeable on methods of HIV transmission, while those with inadequate education are more likely to cite shaking hands, sharing utensils, mosquito bites and hugging as means of transmission ($p=0.001$). 90% of educated women are willing to share HIV information with their children, compared to 40% of uneducated women. Marital status is seen to positively influence testing status, but has no significant effect on dissemination of information to children. We conclude that despite the aggressive HIV education and proliferation of VCT services in Kenya, women are not heeding the call to get tested. Education has a positive impact on dissemination of HIV information. Focus needs to shift into increasing acceptability of testing by women in rural Kenya (*Afr. J. Reprod. Health* 2010; 14[3]: 165-169).

Résumé

Sensibilité à l'éducation du VIH et aux services du CTV chez les femmes rurales kenyanes : Une enquête basée sur la communauté. L'intérêt suscité par le CTV et d'autres stratégies de la prévention du VIH chez les femmes africaines rurales est affecté par des facteurs socioculturels et économiques qu'on doit élucider. Nous avons comme objectif d'établir la sensibilité à l'éducation du VIH chez les femmes rurales qui fréquentent trois dispensaires au Congo. Cette étude a été conçue pour évaluer les facteurs des sexes et psycho-sociaux qui influent sur les dynamiques du VIH dans les régions rurales du Kenya. Il s'agit d'une étude transversale, basée sur des questionnaires. Elle était menée en octobre 2009 auprès des 1347 femmes. Nous avons évalué la situation socio-économique aussi bien que la connaissance sur les méthodes de la transmission du VIH. Nous avons évalué la situation par rapport au test, aux services du CTV qui subsistent et la volonté de partager l'information sur le VIH avec leurs enfants. La majorité des femmes ont entendu parler des services du CTV, mais très peu d'entre elles ont subi le test. Celles qui ont reçu une instruction au niveau secondaire ou supérieur étaient mieux renseignées sur les méthodes de transmission du VIH, alors que celles qui étaient moins instruites ont plus la possibilité de citer le serrement de main, le partage des ustensiles, la piqûre de moustique et l'enlacement comme moyens de transmission ($p= 0,001$). 90% des femmes instruites ont le désir de partager l'information sur le VIH avec leurs enfants, par rapport à 40% des femmes non instruites. L'état civil influe de manière importante sur la situation du test, mais n'a aucun effet important sur la diffusion de l'information aux enfants. Nous concluons que malgré l'éducation agressive sur le VIH et la prolifération des services du CTV au Kenya, les femmes ne répondent pas à l'appel au test. L'éducation a un impact positif sur la diffusion de l'information concernant le VIH. Il faut concentrer l'attention désormais sur l'effet d'augmenter l'acceptation des tests par les femmes au Kenya rural (*Afr. J. Reprod. Health* 2010; 14[3]: 165-169).

Key words: Responsiveness, VCT- voluntary counseling and testing, HIV, women.

Introduction

More women are infected with HIV as compared to men in Kenya with ratio of 1.9:1. Women in the reproductive age (15-49 years) are three to six

times more likely to be infected compared to men¹. In Eastern province of Kenya, which is predominantly an agricultural area, HIV prevalence stands at 6.1% among women and 1.5% among men². These disparities, coupled with social bias to the

disadvantage of women, are of concern to HIV workers.

As stated by the WHO report³, an effective Voluntary Counselling and Testing Services (VCT) program should begin with raising a community awareness on the benefits of the testing and counselling, both in preventing the spread of the infection and meeting the need for care and support in that community. Recent studies indicate that overall coverage of testing and counselling is extremely poor in countries with highest HIV/AIDS burden³. Worldwide, only 5% of people with HIV/AIDS are estimated to be aware of their status³. Therefore, access to testing and counselling is the key for successfully implementing antiretroviral therapy and avoiding re-infection and transmission by behavioural changes.

HIV/VCT is not available in most regions in Africa^{4, 5}. There are few studies describing barriers to HIV testing and counselling in sub-Saharan Africa⁶, which are particularly related to disclosure of HIV/AIDS status to sexual partners, fears of VCT attendance due to stigma and discrimination.

There has been a sharp increase in the number of VCT centres in Kenya over the last ten years. HIV counseling and testing is broadly considered a critical component of HIV transmission-prevention and treatment efforts. Given the severity of the AIDS pandemic in sub-Saharan Africa, the potential societal benefit of testing is invoked to call for its massive expansion and to justify a shift from voluntary to routine testing. Surprisingly little evidence has demonstrated, however, that such a shift will result in the intended benefits to communities, particularly that of reducing the horizontal transmission of HIV.

Methodology

This was a questionnaire-based study among rural women, part of a larger study among the Meru and Kamba communities of Kenya, which are predominantly agricultural. The study population consisted of women in the child bearing age. Only women who have one or more children were included. Permission to interview the women was granted by the local provincial administration, and the study subjects gave verbal consent to the study after a thorough briefing on the contents of the questionnaires. Women were not required to give their names or disclose their HIV status. A total of 1,347 women attending three selected dispensaries for any illness were interviewed.

The questionnaire used for this study was simple, and was self-administered, except for illiterate women. Pre-testing was done on 10 women to ascertain the ease of completing and to determine the homogeneity and clarity of the questions to all age

groups. In the latter, a research assistant read and interpreted the questions after which the respondents gave their answers.

Study characteristics

- a) Socio-demographic information: These variables included age, number of children, marital status and level of education. Marital status was classified as married or not (single, divorced and widowed). Two categories for parity were considered; primiparous or multiparous. Education levels were divided into two, according to Kenyan standards; well educated, comprising those who had secondary school education and above, and inadequately educated comprising primary school education and below.
- b) Knowledge-based questions: A yes/no table on modes of transmission were used. Some of the questions included: Sexual intercourse, surgical instruments, child birth and breast feeding, hugging, shaking hands and sharing utensils as means of HIV transmission. Women were also required to name a VCT centre that they had knowledge of.
- c) HIV testing: Participants were asked if they had been tested or not. Those who had been tested were asked to give reasons for testing. These were categorized as "voluntary" (if the women had taken themselves for testing without any prompting reason) and "involuntary" (if child birth, school requirements, insurance or other compulsory reasons prompted the testing). Those who had not been tested were asked if they had heard of VCT services.
- d) Information dissemination: Women were asked whether they shared HIV information freely with their children or were willing to do so. They were also required to state whether or not they could talk about HIV to other people.

SPSS version 15.0, Chicago, Illinois was used to analyze the data. Bivariate analysis (Chi Square) was used to examine differences between those tested and not tested. Multivariate analysis was used to examine relationships among all variables with dependent variables of interest.

Results

The mean age of the 1,347 women interviewed was 34.5 years, with a range of 19 to 60 years. 18.9% were primiparous, while 81.1% were multiparous. More were married as opposed to those not married (single, divorced or widowed) (66.8% vs. 33.2%). Those classified as educated were 34.1% (458 out of 1,347).

Significantly more women were not tested for HIV (44.5%; 599 versus 55.5%; 748, $p=0.02$). Out of the 44.5% tested, more were "forced by circumstan-

Table 1. Analysis of Bivariate relationship between testing status and various model variables.

Variable	Tested (%) n=599	Not tested (%) n= 748	p value
Marital status			0.035
Married	72 % (431)	63% (471)	
Not	28% (168)	37% (27%)	
Education			0.000
Well educated	46% (275)	25% (187)	
Inadequately educated	54% (324)	75% (561)	
Parity			0.016
One child	24% (144)	15% (111)	
Many	76% (455)	85% (637)	
Reasons for testing			
Voluntary	261 (43.5%)		
Involuntary	338 (56.5%)		

ces” like child birth, insurance and school entry requirements than those who took a conscious decision to undergo testing (43.5% vs. 56.5%). Of those not tested, 88.1% had heard of Voluntary Counseling and Testing. Knowledge on HIV had no significant correlation with testing status or reasons for testing ($p=0.230$). Married women were more likely to have taken an HIV test (Mann-Whitney U test, $p=0.03$).

Those with adequate education (secondary school and above) were more knowledgeable on methods of HIV transmission, while those with inadequate education (primary school and below) were more likely to cite mosquito bites, sharing utensils and greetings as methods of transmission ($p = 0.001$). There is a positive correlation ($P = 0.001$) between level of education and HIV knowledge. The correlation between the level of education and knowledge on VCT is significant $P=0.002$. It was discovered that 91% of the women reported that they would freely share information with their children, while 93.6% would share the information with other people. Uneducated and older women would prefer not to share HIV information ($p=0.039$). Marital status had no significant influence on the dispensation of HIV related information (Table 1).

Discussion

This study gives the first account of responsiveness to VCT services among rural women in a predominantly agricultural part of Kenya. Results from this study support studies done in similar areas among African women that HIV/AIDS is widely known and perceived as a major threat to health⁷. Therefore the main problem facing the HIV campaign is not awareness, but reasons behind indifference even in the face of massive awareness campaigns.

Socio-economic status has been found to correlate with responsiveness to HIV, with poverty and lack of education as major risk factors for infection⁸. Studies relating socio-economic status and risk of HIV infection have however been done only in urban centres in Africa⁹. There is therefore a knowledge gap as concerns risk factors for HIV infection among rural women. Traditions and other societal expectations on women are different between rural and urban areas, and between ethnic groups¹⁰.

According to our results, significantly more women are not tested for HIV. Almost three decades after the first HIV case was reported, and with the aggressive media and government campaigns against HIV, the acceptance of testing remains low. In developed countries, the acceptance levels vary widely depending on race, socioeconomic status and education level (3-100%)^{10,11}. In the developing world, VCT uptake levels among pregnant women range from 33-95%, with little known about other women¹². Some factors associated with low acceptance are fear of false positives, stigmatization, domestic violence, separation and divorce^{13,14}. We believe these are the same factors at play in the current study population. Of particular concern is the social status of women among the population studied. In a study in Botswana, 14% of the women studied had to get husband's consent before testing¹⁵. Women are believed to take second class from men, and are therefore not free to make their own decisions as concerns HIV¹⁴. Future studies should focus on the role of men in the testing status of women in this population.

Interestingly, most of the women who reported having been tested for HIV did so because of compulsory reasons like child birth, school, and insurance requirements. Future interventions need to draw a distinction between voluntary and involuntary tes-

ting. It is the authors' view that voluntary testing has not been fully accepted in Kenya, and what is in existence may be termed as "involuntary or prompting testing". The picture is not different from other populations; in the United States, for example, include insurance coverage¹⁵. More aggressive and specialized campaigns need to be mounted to shift the testing paradigm.

Married women were more likely to have taken an HIV test. This contrasts with various other African studies which have shown that single women are more likely to have taken or to take the test^{12,16,17}. It is the contention of the authors that married women in Africa are still subject to their husbands' authority, who in most cases refuses them to take the tests. A study in Botswana confirmed that many men do not support the idea of their wives taking the HIV test without their permission¹⁸. Our results could partly be supported by the fact that VCT services are still not widely available in Eastern Kenya and, therefore, married women who present themselves to the antenatal clinics are more likely to take the test.

The findings show that education has a positive influence on testing and taking precautions towards HIV and risky sexual behaviour. Previous researchers have differed over the influence of education on acceptance of VCT. Our literature search reveals that more studies report less acceptance of testing among educated women^{19,20,21}. These women are more knowledgeable and know the risks and implications of testing positive, hence many of them fear taking HIV tests. Further, high socio-economic status has been associated with increased risk of infection²². Some workers have however reported changing trends in the influence of education on acceptance of VCT services. Early 1990s, highly educated women were less likely to accept testing, but this changed early 2000s²³. Our study corroborates this assertion. Education and HIV is a composite correlation; in the present study, we believe that educated women are more likely to deliver in hospitals and visit hospitals and clinics in case of illnesses, hence are more likely to be tested. On the other hand, uneducated women deliver with the assistance of private midwives and seek help from traditional healers in case of illness, hence likely to be tested. Further, belief in traditions, curses and witchcraft is likely to be more rampant among the inadequately educated.

Women with more children are more likely to have taken an HIV test. This supports our finding that married women are more likely to take the test. The possible explanation is that married women bear more children and are thus more exposed to VCT services. There is a small proportion of unmarried women who have children, but their number according to our study is less than for the married ones. Child bearing is associated with increased

carefulness and need to keep safe from infection, which partly explains the high acceptance rates among multiparous women²⁴.

This study brings into focus the composite factors affecting testing and knowledge levels on HIV among women in a rural setting. It is noteworthy that education, marital status and number of children are related with uptake of VCT services. These factors are affected by the status afforded to women among rural communities in Africa. Future HIV/AIDS intervention campaigns need to look at the psychosocial model and societal expectations on women. With HIV/AIDS continuing to be a major public health concern in Kenya, the issues surrounding acceptance and use of VCT need to be addressed. Enhancing community awareness of the benefits of early HIV diagnosis, providing couple-based VCT as an integral part of VCT and increasing access to VCT testing sites may enhance utilization of VCT.

References

1. Report on the global HIV/AIDS epidemic 2002. UNAIDS, July 2002.
2. Central Bureau of Statistics, Kenya Demographic and Health Survey 2003; *Population Projections CBS and NASCOP*.
3. WHO. Investing in a comprehensive health sector response to HIV/AIDS-Scaling up treatment and accelerating prevention. 2004a
4. Sweat M, Gregorich S, Sangiwa G, Furlonge C, Balmer D, Kamenga C, Grinstead O, Coates T. Cost effectiveness of voluntary HIV-1 counselling and testing in reducing sexual transmission of HIV-1 in Kenya and Tanzania. *Lancet* 2000 8; 356 (9224): 113-21
5. Gibier de Souza L, Vergara A, Cardoso J, Manjate RM, Barreto A. Using Moh-ngo partnership to Implement Voluntary Counselling and Testing in Mozambique, *IAS, 14th Intl AIDS Conf. Barcelona. 2002*
6. WHO. Gender Dimensions of HIV status Disclosure to Sexual Partners: Rates Barriers and Outcomes, a review paper. Geneva. 2004b
7. Enosolease ME, Ofor E. Acceptance Rate of HIV Testing among Women Seeking Induced Abortion in Benin City, Nigeria. *Afr. J. Reprod. Health*, Vol. 8, No. 2 (Aug., 2004), pp. 86-90
8. Wojcicki JM. Socioeconomic status as a risk factor for HIV infection in women in East, Central and Southern Africa: a systematic review. *J. Biosoc. Sci.* 2005. 37(1):1-36.
9. Michelo C, Sandøy I.F, Fylkesnes K. Marked HIV Prevalence Declines in Higher Educated young People: Evidence from Population-based Surveys (1995-2003) in Zambia. *AIDS*. 2006 April 24; 20 (7):1031-8
10. Irwin K.L, Valdiserri R.O, Holmberg S.D. The Acceptability of Voluntary HIV Antibody Testing in the United States: A Decade of Lessons Learned. *AIDS* 1996; 10 (14):1707-17
11. Samet JH, Winter MR, Grant L, Hingson R. Factors associated with HIV testing among sexually active adolescents: a Massachusetts survey. *Pediatrics* 1997; 100(3Pt 1):371-7.

12. Van der Straten A, King R, Grinstead O, Serufilira A, Allen S. Couple Communication, Sexual Coercion and HIV Risk Reduction in Kigali, Rwanda. *AIDS* 1995; 9: 935–44
13. Cartoux M, Meda N, Van de Perre P, Newell M.L, De Vincenzi I, Dabis F. The Ghent International Working Group on Mother to Child Transmission of HIV. Acceptability of Voluntary HIV testing by Pregnant Women in Developing Countries: An International Survey. *AIDS*. 1998; 12:2489–93.
14. Gaillard P, Mellis R, Mwanyumba F, Claeys P, Muigai E, Mandaliya K.A, Bwayo J, et al. Vulnerability of Women in an African setting: Lessons for Mother to Child Transmission Prevention Programmes. *AIDS* 2002; 6:937–8
15. Schuman P, Jones T.B, Laken M.P. Voluntary HIV Counseling and Testing—An Assessment of Compliance with Michigan Public Health Statutes. *MedGenMED* 2004; 6 (2): 52.
16. Macdonald D.S. Notes on the Socio-economic and Cultural Factors Influencing the Transmission of HIV in Botswana. *Soc. Sci. Med.* 1996; 1996; 42: 1325 – 33
17. Langen T.T. Gender Power Imbalance on Women's Capacity to Negotiate Self-protection against HIV / AIDS in Botswana and South Africa. *Afr. Health Sci.* 2005; 5 (3): 188–97.
18. Kebaabetswe P, Bukonda N.K.Z, Ntseane D, Thior I. Male Involvement in the Prevention of Mother to Child Transmission of HIV Program in Botswana. First National HIV/AIDS/STI/ other Related Infectious Diseases Research Conference 2003; Gaborone, Botswana. Abstract TBT 46–3.
19. Lindsay M.K, Adefris A, Peterson H.B, Williams H, Johnson J, Klein I. Determinants of Acceptance of Routine Voluntary Human Immunodeficiency Virus Testing in Inner city Prenatal Population. *Obstet. Gynecol.* 1991; 1991; 78: 678 – 80
20. Orubuloye I.O, Caldwell J, Caldwell P. African Women's Control over their Sexuality in an era of AIDS: A Study of the Yoruba of Nigeria. *Soc. Sci. Med.* 1993; 37: 859 – 72
21. Royce, R.A, Donaldson K. HIV Counseling and Testing in a Cohort of Pregnant Women attending Public Prenatal Clinics. *XI International Conference on Aids*; Vancouver. 1996. Abstract WeC3593
22. Hargreaves J.R, Linda A. Morison, Chege J, Rutenburg N, Kahindo M, et al. Socioeconomic Status and Risk of HIV Infection in an Urban Population in Kenya. *Trop. Med. Intl. Health* Vol 7(9): 793–802 September 2002
23. Damien de Walque, Jessica S. Nakiyingi-Miir, June Busingye, Jimmy A. Whitworth. Changing Association between schooling levels and HIV-1 Infection over 11 years in a rural Population cohort in South-West Uganda. *Trop. Med. Intl. Health* Vol. 10(10):993–1001 October 2005.
24. UNAIDS - Report on the Global AIDS Epidemic, 2006, and Women and AIDS, December 2004 - www.unaids.org.

