

CORRELATES OF HIV TESTING AMONG ABUSED WOMEN IN SOUTH AFRICA

Julie L. Adams, Duke University Department of Psychiatry and Behavioral Science, DUMC Box
3369, Durham, NC 27707, 919-681-8347, julie.adams@duke.edu

Nathan B. Hansen, Yale University School of Medicine, nathan.hansen@yale.edu

Ashley M. Fox, Columbia University, amf2116@columbia.edu

Baishakhi B. Taylor, Louisiana State University, btaylor@agcenter.lsu.edu

Madri Jansen van Rensburg, POWA: People Opposing Women Abuse, Johannesburg, South
Africa, madrijvr@gmail.com

Rakgadi Mohlahlane, Centre for the Study of AIDS, University of Pretoria,
rakgadi.mohlahlane@up.ac.za

Kathleen J. Sikkema, Duke University Department of Psychology and Neuroscience,
kathleen.sikkema@duke.edu

Acknowledgements

This research was supported by grants WAF 244 (01-016) (awarded to Kathleen Sikkema, Ph.D.) from the World AIDS Foundation, and D43-TW05808 from the NIH Fogarty International Center and P30-MH62294 Center for Interdisciplinary Research on AIDS (CIRA) from NIMH (awarded to Michael H. Merson, M.D.). Dr. Adams was supported by 5KL2RR024127-03 from the NIH National Center for Research Resources. The authors gratefully acknowledge our community collaboration with People Opposing Women Abuse (POWA) in Johannesburg and the invaluable assistance of Mary Crewe, Director of the Center for the Study of AIDS in Pretoria.

Key words: Gender based violence, HIV, voluntary counseling and testing

ABSTRACT

Gender-based violence increases a woman's risk for HIV, but little is known about her decision to get tested. We interviewed ninety-seven women seeking abuse-related services from an NGO in Johannesburg, South Africa. Forty-six women (47%) had been tested for HIV. Caring for children (OR 0.27, 95% CI 0.07-1.00) and conversing with partner about HIV (OR 0.13, 95% CI 0.02-0.85) decreased odds of testing. Stronger risk reduction intentions (OR 1.27, 95% CI 1.01-1.60) and seeking help from police (OR 5.51, 95% CI 1.18-25.76) increased odds of testing. Providing safe access to integrated services and testing may increase testing in this population.

Infection with HIV is highly prevalent in South Africa where an estimated 16.2% of adults between the ages of 15 and 49 have the virus (Garcia-Calleja, Gouws, & Ghys, 2006). The necessary first step to stemming the spread of HIV and receiving life-saving treatment is learning one's HIV serostatus through testing. Many factors may contribute to someone's risk of HIV infection and many barriers may prevent testing. One factor that does both is gender-based violence.

Gender-based violence (GBV) is defined as a range of harmful customs and behaviors directed towards girls and women, including intimate partner violence (IPV), domestic violence (DV), assaults against women, child sexual abuse, and rape (The Foundation for AIDS Research [amfAR], 2005). GBV is increasingly gaining recognition as a serious threat to the health of women worldwide and may result in injury, psychological trauma, sexually transmitted infections (STI), and death (United Nations [UN], 2005). With the increase in HIV infection worldwide, the relationship between HIV and GBV deserves careful attention.

Violence, abuse and rape are highly prevalent worldwide including South Africa. One in three women worldwide will be victims of rape or attempted rape and equal numbers will experience abuse of any kind (UN, 2005). In South Africa, prevalence estimates for physical abuse by an intimate partner range between 20 and 55% (Dunkle et al., 2004a). The most recent national survey in South Africa estimates 134 women per 100,000 were raped in 1997, the highest estimate that year of all countries reporting to Interpol. While about half of that sample had reported the rape to police (Hirschowitz, Worku & Orkin, 2000), a more recent study found only 15% of rapes and sexual assaults are reported (Jewkes & Abrahams, 2002).

The problem of GBV in South Africa is compounded by its acceptability. In a large survey of students in South Africa 30% believed women do not have the right to say no to sex

and half believed that a girl means yes" when she says "no". Sixty percent of respondents did not consider forced sex to be sexual violence (CIET, 2002). The beliefs of youth are seen in the actions of adults. Sixty-six percent of adult men surveyed in a community sample endorsed perpetrating violence in an intimate relationship (Abrahams, Jewkes, & Laubsher, 1999).

HIV is the most prevalent sexually transmitted infection a woman may contract as the result of GBV in South Africa (Pettifor et al., 2004). This fact, coupled with the high prevalence and acceptability of violence, make women in South Africa uniquely vulnerable. The link is more than theoretical as many data support the association between HIV infection and GBV. Among adolescent girls diagnosed with STI or HIV in the U.S., 58% had experienced dating violence (Decker, Silverman, & Raj, 2005). A study of women receiving voluntary counseling and testing (VCT) in Nairobi, Kenya showed 42% had experienced violence of any kind, of whom 67% tested positive for HIV (Fonck, Leye, Kidula, Ndinya-Achola, & Temmerman, 2005). Maman et al (2002) reported partner violence was 10 times greater among young HIV-infected women compared with their uninfected counterparts in Tanzania even before disclosing their HIV-status to a partner. The association remains even after a woman's own risk behaviors are taken into account (Dunkle et al, 2004b).

Population-based studies and studies conducted in VCT and antenatal clinics in sub-Saharan Africa have shown that low education (Weiser, Heisler, Leiter, Percy-de Korte, Tlou, et al., 2006; Hutchinson & Mahlalela, 2006), lack of ready access to testing (Weiser, 2006; Hutchinson, 2006; Irungu, Varkey, Cha, & Patterson, 2008; Kakoko, Lugoe, & Lie, 2008; Corbett, Dauya, Matambo, Cheung, & Makamure, 2006), concerns of privacy (Weiser, 2006; Laver, 2001; Ekanem & Gbadegesin, 2004; Fylkesnes & Siziya, 2004), stigmatizing attitudes towards HIV/AIDS (Weiser, 2006; Hutchinson, 2006; Kalichman & Simbayi, 2003), and lack of

perceived risk for infection have all been reported as barriers to testing (Weiser, 2006; Fylkesnes, 2004). Fears of retribution from a partner, stigmatization within a community or discrimination from healthcare workers are additional barriers (Laver, 2001; Pool, Nyanzi, & Whitworth, 2001). In rural Zimbabwe fear of violence, stress and stigma also prevented testing (Laver, 2001). However, data suggest women who perceive themselves to be at increased risk for infection (Weiser, 2006) and those who care for children (Tucker, Wenzel, Elliott, Hambarsoomian, Golinelli, 2003) were more likely to seek testing.

The current study is an examination of the correlations of HIV testing among a group of South African women experiencing abuse, the first of its kind to examine the dual vulnerabilities created by the intersection of violence and HIV infection from the perspective of the women experiencing violence.

Despite her increased risk for HIV infection, an abused woman may face barriers to testing for HIV. Abused women are often isolated and disempowered by their abuser creating barriers to seeking help (Humphreys, 2007) which may also prevent access to HIV testing and care. Our study sought to identify what some of those barriers may be.

METHODS

Study design, setting and participants

Data presented here are the results of baseline, structured, face-to-face interviews conducted prior to participation in a pilot HIV prevention intervention for abused women. The study took place at three drop-in clinics and two shelters for abused women operated by a non-governmental organization (NGO) in and around Johannesburg between January 2003 and March 2004. Study participants were women aged 18 years or older seeking abuse-related services.

Procedures

Women were told of the study by counselors in the NGO and offered a brochure in Zulu, Sotho or English. Written informed consent was obtained and trained interviewers conducted interviews in Zulu, Sotho or English in a private setting.

Measures

Demographic Characteristics. Each participant indicated her age, race/ethnicity, educational level, employment status, income, number of children in her care, and current relationship status.

Relationship Characteristics. Each participant was asked if her partner had tested for HIV and whether she had spoken with her partner about HIV and AIDS concerns. These were categorical questions and participants were also allowed to answer “I don’t know” or “Refused”.

Sexual behavior. Each respondent was asked whether or not she had been sexually active in the past year.

Risk Reduction Intentions. Participants completed a seven-item modified risk reduction intention scale (Sikkema, Heckman, Kelly, Anderson, & Winett, 1996). Each question offered a 4 point likert scale for response and scores for all seven questions were summed for analysis. Questions examined condom use intentions and willingness to refuse participation in unsafe sexual practices ($\alpha=0.74$).

Help Seeking Behavior. Women were asked whether they had ever sought help from the police for abuse or domestic violence.

HIV testing. Women were asked whether they had ever been tested for HIV.

Statistical Analysis

The statistical analysis involved two steps. First, a series of univariate analyses were conducted to identify significant relationships between eight predictor variables and HIV testing. These included age, education, presence of children (having biologic children or caring for other children), risk reduction intentions (continuous variable based on the sum score of a 7 item scale), having a partner who tested for HIV, being able to converse with partner about HIV, if sexually active in the past year, and seeking help from the police prior to seeking services based at the NGO. None of these variables were intercorrelated.

In the second step, all the variables that were related to HIV testing ($p < .10$) in the univariate analysis were used in multivariate logistic regression. The adjusted odds ratio was used to assess the strength of bivariate association after controlling for other variables in the multivariate model. SPSS version 15.0 was used for all statistical analysis.

RESULTS

Ninety-seven women were enrolled and completed baseline interviews. All women were over the age of 18 and had experienced relationship violence of a physical, emotional, sexual, or financial nature. The women were primarily of Black ethnicity (94%); median age was 36 with an average of two biological children. Sixty-five percent had less than a high school education, 72% earned less than R500 (~80USD) per month, and 71% had no formal employment, thus indicating that the majority were from a low socioeconomic background. Sixty-five percent reported having a current partner and 80% had been sexually active over the past year. Forty-six women (47%) had been tested for HIV at some point in the past (see table 1 for descriptive statistics by testing status).

 Table 1 about here

The results of the univariate analyses are summarized in table 2. Of the eight predictor variables investigated, seven were related ($p < .10$) in the univariate analysis and were entered in the multiple regression analysis. They were (1) age, (2) education, (3) caring for children, (4) risk reduction intentions, (5) HIV testing by partner, (6) conversation with partner about HIV, and (7) seeking help from the police. Sexual activity in the past year was not associated in the univariate analysis to HIV testing and was not entered in the final regression analysis.

As shown in Table 2, four of the seven variables contributed significantly ($p < 0.05$) to the multivariate model. Caring for children and having talked with her partner about HIV were negatively associated with testing, while stronger risk reduction intentions and seeking help from the police for violence in the past were positively associated with testing.

Table 2 about here

DISCUSSION

Nearly half of the women in our study (47%) had sought HIV testing. The strongest correlate of HIV testing was seeking help from the police. Given the cross-sectional nature of the data, however, we cannot know whether testing or seeking help came first. Perhaps women who sought help from police subsequently availed themselves of testing through law enforcement services (e.g. rape victims). This is consistent with literature that suggests easy access may increase testing (Weiser, 2006; Huthinson, 2006; Irungu, 2008; Kakoko, 2008; Corbett, 2006). Seeking help from police may also follow testing whether a woman tested positive or negative. For example, an infected woman could be abandoned or even more seriously abused by her

partner after testing leading her to seek assistance. An uninfected woman might see escape from her abuser as the only way to remain uninfected and seek help from the police to do so. In our study, women with stronger intentions to reduce risk were more likely to have been tested.

A study in an urban U.S. sample found a positive correlation with testing among women who care for children (Tucker, 2003) perhaps because these women considered the potential health consequences for the children or the need to plan for their futures. Our study revealed a negative association between caring for children and testing for HIV. The maternal desire to protect and care for children may still drive both cohorts. Fear of stigmatization (Weiser, 2006; Hutchinson, 2006; Kalichman, 2003; Laver, 2001; Pool, 2001) and limited resources for abused or abandoned women may cause a mother to forgo testing as she may perceive less benefits from knowing her HIV status compared to her developed-world counterpart. Beyond lack of services and potential rejection in the community, literature suggests that women in our sample may also fear retribution from a violent partner (Laver, 2001; Pool, 2001) which may affect her children or her ability to care for them also making her less likely to test.

There are various potential explanations for the negative correlation between testing and ability to talk to a partner about HIV or AIDS. A woman may not test if her partner tells her she is not at risk from him or if the discussion leads to a prohibition to test. Alternatively, a woman who tested may not wish to disclose her status to an abusive partner. While being able to talk openly about HIV/AIDS is generally considered a good thing, our survey did not specify *what* was talked about. Such conversations may not be positive and may lead to fear of retribution should a woman test which has previously shown to prevent women from doing so (Laver, 2001; Pool, 2001).

While not statistically significant, there was a trend that partner testing was associated with testing in our sample. It could be that when she knows her partner has tested a woman may believe she is at increased risk which has been shown to drive testing behaviors (Weiser, 2006).

Previous data suggest that higher education is a significant predictor of testing (Weiser, 2006; Hutchinson, 2006), however this was not confirmed by our study perhaps due to the small sample size. Sexual activity in the past year also showed no association with testing. This may be a result of the lack of temporal connection between having ever tested and past year sexual activity, disconnect between sexual activity and perception of risk, or simply the homogeneity of the sample of which over 80% had been sexually active.

Very few studies have looked at contributors to testing behaviors in this region, much less in this vulnerable population. Despite this advantage to the current study, we acknowledge several limitations. Most notably, the study design was cross-sectional and no conclusions can be drawn as to whether testing was a result of correlates or the other way around. Further, the sample is made up of women seeking help for violence and should not be generalized to all women experiencing violence in South Africa, the majority of which probably never seek help (Jewkes, 2002).

The authors acknowledge that data for this study were collected when considerable resistance to HIV care existed at a national level in South Africa which may have lead women to believe that without treatment testing was futile. It is difficult to predict how the recent increased availability of HIV treatment and care would have affected these findings. It is important to note, however, that while women in South Africa may have better access to HIV care now, there has not been a comparable effort to address the issues of gender-based violence.

The findings of the study suggest the potential for development of targeted interventions, services, and policies. Abused women are likely to be isolated and have limited access to resources (Humphreys, 2007) so making services available and affordable when a woman does seek help could be a meaningful intervention. Women who seek help from the police may be ready to test for HIV and providing this service in this safe environment could increase testing. Services which provide protection and support to the children of abused women may also increase testing behaviors in their mothers. In our sample, less than half of the women seeking abuse-related services had tested for HIV so presentation for these services provides an ideal opportunity to offer testing. In the absence of integrated services, referral to appropriate services must be offered to each woman seeking help from any agency.

Our study could not reach women in abusive situations who did not seek services, estimated to be the vast majority of abused women in South Africa (Jewkes, 2002). Efforts to reach these women may include community outreach by the police, women advocacy groups or legal aid groups. Future research should look for ways to reach these women and better understand their barriers to seeking help and testing. Such research might find that the widespread acceptability of violence that underlies its perpetuity must be addressed before women can feel safe and empowered to control their own lives and health.

REFERENCES

- Abrahams, N., Jewkes, R., & Laubsher, R. (1999). *'I do not believe in democracy at home': Men's relationships with and abuse of women*. CERSA (Women's Health), Medical Research Council.
- CIET Africa. (2002). *Sexual violence and HIV/AIDS: executive report on the 2002 national survey*. Project report.
- Corbett, E. L., Dauya, E., Matambo, R., Cheung, Y. B., Makamure, B., Bassett, M. T., et al. (2006). Uptake of workplace HIV counseling and testing: a cluster-randomized trial in T., & Heggenhougen K. (2006). Intimate partner violence against women in eastern Uganda: Implications for HIV prevention. *BMC Public Health*, 6, 284.
- Decker, M. R., Silverman, J. G., Raj, A. (2005). Dating violence and sexually transmitted disease/HIV testing and diagnosis among adolescent females. *Pediatrics*, 116, e272-e276.
- Dunkle, K. L., Jewkes, R. K., Brown, H. C., Yoshihama, M., Gray, G. E., McIntyre JA, et al. (2004a). Prevalence and patterns of gender-based violence and revictimization among women attending antenatal clinics in Soweto, South Africa. *American Journal of Epidemiology*, 160, 230-239.
- Dunkle, K., Jewkes, R., Brown, H. C., Gray, G. E., McIntyre, J. A., & Harlow, S. D. (2004b). Gender-based violence, relationship power, and risk of HIV infection in women attending antenatal clinics in South Africa. *Lancet*, 363, 1410-1411.
- Ekanem, E.E. & Gbadegesin, A. (2004). Voluntary counseling and testing (VCT) for Human Immunodeficiency Virus: A study on acceptability by Nigerian women attending antenatal clinics. *African Journal of Reproductive Health*, 8, 91-100.

- Fonck, K., Leye, E., Kidulu, N., Ndinya-Achola, J., & Temmerman, M. (2005). Increased risk of HIV in women experiencing physical partner violence in Nairobi Kenya. *AIDS and Behavior*, 9, 335-339.
- The Foundation for AIDS Research [amfAR]. (2005). *Gender-based violence and HIV among Women: Assessing the evidence* (amfAR AIDS Research Issue Brief No. 3).
- Fylkesnes, K. and Siziya, S. (2004). A randomized trial on acceptability of voluntary HIV counseling and testing. *Tropical Medicine & International Health*, 9, 566-72.
- Garcia-Calleja, J. M., Gouws, E., Ghys, P. D. (2006). National population based HIV prevalence surveys in sub-Saharan Africa: results and implications for HIV and AIDS estimates. *Sexually Transmitted Infections* 82, suppl iii, 64-70.
- Hirschowitz, R., Worku, S., & Orkin, M. (2000) Quantitative research findings on rape in South Africa. Statistics South Africa. Pretoria: Statistics South Africa.
- Humphreys C. (2007). A health inequalities perspective on violence against women. *Health and Social Care in the Community*, 15, 120-127.
- Hutchinson, P.L. & Mahlalela, X. (2006). Utilization of voluntary counseling and testing services in the Eastern Cape, South Africa. *AIDS Care*, 18, 446-55.
- Irungu, T. K., Varkey, P., Cha, S., & Patterson, J. M. (2008). HIV voluntary counseling and testing in Nakuru, Kenya: findings from a community survey. *HIV Medicine*, 9, 111-117.
- Jewkes, R. & Abrahams, N. (2002). The epidemiology of rape and sexual coercion in South Africa: an overview. *Social Science & Medicine.*, 55, 1231-1244.
- Kakoko, D. C., Lugoe, W. L., Lie, G. T. (2008). Voluntary testing for HIV among a sample of Tanzanian teachers: a search for socio-demographic and socio-psychological correlates. *AIDS Care*, 18, 554-560.

- Kalichman, S.C. and Simbayi, L.C. (2003). HIV testing attitudes, AIDS stigma, and voluntary HIV counseling and testing in a black township in Cape Town, South Africa. *Sexually Transmitted Infections*, 79, 442-447.
- Laver SM. (2001). Voluntary testing and counseling for HIV. 'Are adults in rural communities ready to test?' A descriptive survey. *Central African Journal of Medicine*, 47, 92-97.
- Maman, S., Mbwambo, J. K., Hogan, N. M., Kilonzo, G. P., Campbell, J. C., Weiss, E. et al. (2002). HIV-positive women report more lifetime partner violence: findings from a voluntary counseling and testing clinic in Dar es salaam, Tanzania. *American Journal of Public Health*, 92, 1331-1337.
- Pettifor, A. E., Rees, H. V., Madikizela, L., MacPhail, C., Vermaak, K., Kleinschmidt, I., et al. (2004). The prevalence of HIV, gonorrhoea and Chlamydia and risk factors for HIV infection among 15-24 year olds in South Africa: Data from a community based survey. *International Conference on AIDS*, 15, TuPeC4823.
- Pool, R., Nyanzi, S., and Whitworth, J. A. (2001). Attitudes to voluntary counseling and testing for HIV among pregnant women in rural south-west Uganda. *AIDS Care*, 13, 605-615.
- Sikkema, K. J., Heckman, T. G., Kelly, J. A., Anderson, E. S., Winett, R. A., Solomon, L. J., et al. (1996). HIV risk behaviors among women living in low-income, inner-city housing developments. *American Journal of Public Health*, 86, 1123-1128.
- Tucker, J. S., Wenzel, S. L., Elliott, M. N., Hambarsoomian, K., Golinelli, D. (2003). Patterns and correlates of HIV testing among sheltered and low-income housed women in Los Angeles County. *Journal of Acquired Immune Deficiency Syndromes*, 34, 415-422.

United Nations [UN] Millennium Project. (2005). *Taking Action: Achieving Gender Equality and Empowering Women, in Task Force on Education and Gender Equality*. London and Sterling, VA: Earthscan.

Weiser, S. D., Heisler, M., Leiter, K., Percy-de Korte, F., Tlou, S., DeMonner, S., et al. (2006). Routine HIV testing in Botswana: a population-based study on attitudes, practices, and human rights concerns. *PloS Medicine*, 3, e261.

Table 1

Descriptive statistics for predictive variables

		Tested (N=46)	Didn't test (N=51)
	N	Mean (SD) or %	Mean (SD) or %
Age of respondent (years)	95	33.1 (10.0)	37.4 (9.9)
Education (years)	94	9.9 (3.2)	8.9 (3.2)
Presence of children	96	84.7%	92.0%
Risk Reduction Intentions sum	96	15.9 (3.0)	14.4 (2.8)
Partner tested	96	43.5%	16.0%
Conversation with partner	96	69.6%	84.0%
Went to police for help	95	80.4%	54.0%
Sexually active past year	95	78.3%	88.0%

Table 2

Summary of logistic regression analyses predicting HIV testing

Predictor Variable	Univariate		Multivariate	
	OR	CI	OR	CI
Age of respondent	0.96†	(0.92-0.99)	0.93†	(0.87-1.00)
Education	1.12†	(0.97-1.32)	1.00†	(0.82-1.23)
Presence of children	0.44†	(0.21-0.88)	0.27*	(0.07-1.00)
Risk Red Intentions sum	1.20†	(1.03-1.39)	1.27*	(1.01-1.60)
Partner tested	5.00†	(1.79-13.98)	3.38h†	(0.92-12.35)
Conversation with partner	0.41†	(0.15-1.15)	0.13*	(0.02-0.85)
Went to police for help	3.35†	(1.33-8.41)	5.51*	(1.18-25.76)
Sexually active past year	0.49	(0.16-1.48)	-	-

*p<0.05; †p<0.1