

Uptake of provider-initiated HIV testing and counseling among women attending an urban sexually transmitted disease clinic in South Africa – missed opportunities for early diagnosis of HIV infection

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(Received 24 April 2009; final version received 10 August 2009)

This study assessed the uptake of provider-initiated HIV testing and counseling (PITC) among women attending an urban sexually transmitted diseases (STD) clinic in South Africa. From July 2005 to June 2006, women were offered HIV testing following group information and education on HIV and STDs in the clinic waiting area. Of those who were provided with education, information, and offered HIV testing, uptake was 43.5% (2439/5612). The overall HIV prevalence among those tested was 56.5% and the prevalence of acute HIV infection was 1.2%. Of the 56.5% (3173/5612) refusing to test, the reasons for not testing were having already been tested for HIV (61.8%), being afraid to test or felt unready to test (32.5%), the need to consult with partner (0.9%), and refusing with no explanation (4.8%). In settings where high-risk patients await health care services, such as an STD clinic, failure to implement PITC is a missed opportunity for patients to benefit from counseling, prevention, early diagnosis, and referral into care and treatment for HIV infection.

Keywords: provider-initiated HIV counseling and testing; STD clinic; HIV prevention and treatment

Introduction

South Africa has the highest burden of heterosexually transmitted HIV infection globally. Young women between the ages of 18 and 24 years are worst affected, having the highest prevalence and incidence (Rehle et al., 2007; UNAIDS/WHO, 2008). In the early 1990s, client-initiated voluntary counseling and testing services were introduced as a key component of HIV prevention programs. Through the South African government's strategic plans on HIV/AIDS and sexually transmitted infections (STIs) these services were expanded. In 2003, the National Health Services adopted its program to provide comprehensive HIV care and support including access to antiretroviral treatment for people infected with HIV and AIDS. By 2006, counseling and testing became crucial for HIV prevention and considered a priority intervention for the provision of comprehensive HIV and AIDS care, management, and treatment (South African Department of Health, 2006). A key pre-requisite and entry point for these interventions is knowledge about HIV infection; however, accessing HIV testing services remains low for many reasons including low perception of personal HIV risk, fear of stigma and discrimination (Abdool Karim et al., 2008). A newer approach to knowledge of HIV status

through provider-initiated HIV testing and counseling (PITC) services has been recommended (UNAIDS/WHO, 2007). In clinical settings such as sexually transmitted diseases (STD) or tuberculosis clinics where HIV prevalence is high among patients, PITC would enable more clinic patients to rapidly know their HIV status, to be counseled adequately and prompted either to avoiding HIV infection or to access care and initiate antiretroviral treatment much earlier. Early knowledge of HIV status would enhance HIV prevention, care, and early initiation of antiretroviral treatment. This study was undertaken to assess the uptake of PITC among women attending a STD clinic in an urban setting in South Africa.

Methods

This cross-sectional study was performed post-institutional approval from the Biomedical Research Ethics Committee of the University of KwaZulu-Natal. During a one-year period, from July 2005 to June 2006, HIV counselors provided education and information to female patients attending an urban STD clinic.

All counselors completed secondary school education and training modules on sexual and

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reproductive health, HIV infection, HIV and psychosocial support services with interactive and role playing sessions on counseling and testing procedures. Counselors received additional training on PITC including being motivational and interactive with patients. They were trained in the use of a structured script to ensure consistency in providing information on STIs, HIV infection, counseling and HIV testing, reasons why one should know their HIV status, benefits of knowing one's HIV status, consequences of an HIV test result, definitions on window period infection, disclosure, preventative behavior, stigma, discrimination, psychological support, opportunistic infections and referral options for care support and access to antiretroviral treatment. Four counselors were placed at the clinic. One counselor was tasked to provide education and information while the remaining counselors were responsible for individual pre and post test counseling. To prevent weariness, all counselors rotated and were tasked to take turns in providing information and education.

Each information and education session lasted approximately 20 minutes with each group consisting of no more than eight women per group. Following this session, patients were encouraged to ask questions and participate in the follow-up discussions and offered an HIV test. Information leaflets in both English and *IsiZulu* with similar content as the information session were provided to each participant. Those consenting to HIV testing were if required provided with a shortened individual pre-test counseling session (approximately 15 minutes duration) that addressed issues or questions on

personal risk. A trained nurse then performed the HIV testing.

Screening for HIV infection was undertaken using two rapid antibody assays (Determine HIV-1/2 – Abbott Laboratories, Illinois, USA and HIV-1/2 SmartCheck assay – Globalemed.LLC, World Diagnostics, Inc.). Individuals testing negative with both tests were offered an additional test using HIV-1 RNA PCR (COBAS AMPLICOR™ system, Roche Molecular Systems) for detecting window period infection (Karim et al., 2007) and requested to return in two weeks to receive test results. Individual HIV test results were provided to patients on the same day with post-test counseling.

The annual HIV incidence rate was calculated using previously described methods with a window period of 28 days (Pilcher et al., 2005). Demographic data, HIV test results, and reasons for refusing an HIV test were analyzed using SPSS version 15.0 software and reported as proportions.

Results

During the 12-month study period, a total of 8444 women attended the STD clinic. Of these, 5612 (66.5%) received the group information and education. The remainder attended the STD clinic on days or at times that the counselors were not available. Of these 5612 STD patients who were provided with education, information and offered HIV testing, 2439 (43.5%) accepted HIV testing. The overall HIV prevalence among those tested was 56.5% (1378/2439; Table 1). A total of 665 of the 1061 patients who had a negative result to the rapid antibody test agreed to HIV RNA-PCR testing. Eight (1.2%)

Table 1. Outcomes from a provider-initiated HIV testing program among women attending an urban STD clinic.

	<i>n/N</i>	Percentage (95% confidence interval)
Total number attending clinic	8444	–
Provided with group education	5612/8444	66.5
Refusing to test	3173/5612	56.5
Accepted an HIV test	2439/5612	43.5
HIV positive on rapid tests	1378/2439	56.5 (54.5–58.5)
HIV negative on rapid tests	1061/2439	43.5 (41.5–45.5)
HIV RNA-PCR positive	8/665	1.2 (0.6–2.5)
<i>Reasons for refusal</i>		
Already tested	1962/3173	61.8
Disclosed being HIV positive	64/1962	3.3
Disclosed being on antiretroviral treatment	35/1962	1.8
Feeling scared/not ready to test	1030/3173	32.5
Need to consult partner	29/3173	0.9
Refusing with no explanation	152/3173	4.8

tested HIV-RNA positive; their mean HIV-1 RNA viral load was 5.16 log copies/ml (range 4.92–7.92). The 1.2% prevalence of window period infection extrapolated to an HIV incidence of 15.6/100 person-years (95% CI 4.8–26.6). The most common reasons cited for not accepting an HIV test was that patients had reported already having been tested (61.8%) and of these only 3.3% disclosed being HIV positive and 1.8% reported being on antiretroviral treatment, while 32.5% were afraid to test or felt unready to test. There were no significant differences in the age distribution of women accepting or refusing to test (Table 2).

Discussion

In this study, PITC was acceptable among women within a busy STD clinic setting. Most high HIV prevalence countries in sub-Saharan Africa offer routine HIV testing to pregnant women attending public sector clinics (UNAIDS/WHO, 2008). Data suggest that testing is highly acceptable in some settings and has led to 99.9%, 95%, and 74.6% testing coverage in Zimbabwe (Chandisarewa et al., 2007), Botswana (Creek et al., 2007), and South Africa (Mkwanazi et al., 2008), respectively. Drawing on these experiences, this strategy has been expanded across different health care settings where HIV testing uptake is also high (Bassett et al., 2007; Wanyenze et al., 2008).

STD clinic attendees represent a major risk group for HIV acquisition and transmission (Rottingen, Cameron, & Garnett, 2001) and the prevalence of HIV infection among women with genital ulcer disease in this STD clinic was 75% (Moodley et al., 2003). The overall HIV prevalence among those tested was 56.5% and the age-specific prevalence of 45.9% in the 20–24-year age group and 65.5% in the 25–29-year age group far exceed those reported for young women less than 30 years of age (National Department of Health, 2008;

Pettifor et al., 2005; Rehle et al., 2007). Our findings show that young women in high-risk settings such as the STD clinic bear an even higher burden of HIV infection. In view of these findings prevention efforts need to reach high-risk young women, consequently PITC offered at the STD clinic would be an essential prevention strategy.

Our ability to identify acute HIV infection in the absence of antibodies allowed us to extrapolate HIV incidence of 15.6/100 person-years. This incidence rate is similar to the modeled rate of 16% among women aged 20 and 24 years (Wilkinson, Abdool Karim, Williams, & Gouws, 2000) and 24.5% at age 22 years (Williams, Gouws, Wilkinson, & Karim, 2001). More recent data from population-based surveys have shown the HIV incidence to be 7.9/100 person-years among women aged 15–49 years in rural KwaZulu-Natal (Barnighausen et al., 2008) and nationally the HIV incidence has been higher at 5.6% among women aged 20–25 years compared to 0.9% among men in the similar age group (Rehle et al., 2007). These incidence rates indicate that the HIV epidemic in South Africa has not yet reached a plateau and our data confirm that women with STDs continue to be at risk for new infections. Previous studies have shown that most acute HIV infections were diagnosed among STD patients (Pilcher et al., 2005) suggesting that nucleic acid testing would be a beneficial component of PITC in high-risk settings. Further, it provides an opportunity to rapidly identify persons with acute HIV infection and enable counseling messages that would address this high transmission probability window period of infection.

Among women refusing to test, a high proportion indicated having previously tested, with only a small proportion disclosing their HIV status. The reasons for many women refusing an HIV test include; fear of disclosure, high levels of denial, social stigma of HIV and not having access to treatment (Abdool Karim et al., 2008; Gruskin, Ahmed, & Ferguson, 2008). Our

Table 2. Age-specific characteristics of HIV-positive women and those refusing to test.

Age category (years)	HIV prevalence		Accepted HIV testing <i>n</i> (%)	Refused HIV testing <i>n</i> (%)	<i>p</i> -Value
	<i>n</i>	Percentage (95% confidence interval)			
≤19	79	37.1 (30.7–43.9)	213 (8.7)	164 (5.2)	0.27
20–24	394	45.9 (42.5–49.3)	859 (35.2)	1049 (33.1)	0.36
25–29	438	65.5 (61.7–69.1)	669 (27.4)	967 (30.5)	0.19
30–34	256	73.1 (68.1–77.7)	350 (14.4)	541 (17.0)	0.35
35–39	121	69.9 (62.4–76.6)	173 (7.1)	241 (7.6)	0.99
≥40	90	51.4 (43.8–59.0)	175 (7.2)	211 (6.6)	0.97
Total	1378	56.5 (54.5–58.5)	2439	3173	

findings further suggest that women were well informed and chose to exercise individual autonomy in making the decision not to have an HIV test (Abdool Karim, Abdool Karim, Coovadia, & Susser, 1998).

Limitations of this study include not being able to offer PITC to all women since counselors were available to work the first three days per working week, those being the clinics busiest days. Another limitation is the inclusion of women only. Our focus was on establishing cohorts of young women who would benefit from future HIV prevention intervention trials. PITC has been extended to men attending the same clinic and the results are encouraging thus far with similar trends on the uptake of HIV test.

Conclusion

This study highlights the need for PITC as a public health intervention especially among STD clients as this would be a missed opportunity to enhance knowledge of HIV status, counseling, HIV prevention, early diagnosis, and referral into care and treatment for HIV infection.

Acknowledgements

CAPRISA was established through a CIPRA grant from the NIH (Grant no. U19AI51794), as a multi-institutional collaboration, incorporated as an independent non-profit AIDS Research Organization. We sincerely thank the clinic management, staff, and counselors for their kind assistance. This study received funding support for the counselors from the US President's Emergency Plan for AIDS Relief (PEPFAR).

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