

CONCERNS ABOUT HIV AND SEXUALLY TRANSMITTED INFECTION AMONG LOW-RISK AND HIGH-RISK WOMEN, PUERTO RICO

In this study, the RESPECT-2, an HIV risk reduction intervention developed by the Centers for Disease Control and Prevention, was translated into Spanish and culturally adapted to the Puerto Rican population. A new intervention emerged called the RReduC-PR (Risk Reduction Counseling-Puerto Rico). This instrument allows the assessment of sexual behaviors and development of risk reduction plans.

Women from three distinct risk behavior groups participated: women recruited from a community-based organization (CBO), which includes street sex workers, crack users, and sexual partners of intravenous drug users; participants from a sexually transmitted infection (STI) clinic; and participants from a family planning clinic (FPC) in Puerto Rico. As part of the RReduC-PR, participants were provided counseling before and after a rapid HIV test to explore their attitudes about sexual behaviors.

At baseline, all participants from the FPC reported having monogamous relationships (100%), as compared with the participants from the STI clinic (70%) and those from the CBO (20%). STI risk-reduction behaviors varied by site. Most of the participants acknowledged risk behaviors that may have exposed them to HIV. They did not use condoms, or used them inconsistently, even though acquiring HIV was a great concern for them. Most regarded a positive HIV diagnosis as a negative event. Their attitudes toward an HIV diagnosis varied by site. The groups varied in the perception of risk behaviors, knowledge, and concerns. These findings provide useful information for future risk-reduction interventions with these women. (*Ethn Dis.* 2008;18[Suppl 2]:S2-238-S2-241)

Key Words: HIV/AIDS, HIV/STI Risk Behaviors, Risk Reduction Counseling, Rapid HIV Test

From the Puerto Rico Comprehensive Center for the Study of HIV Health Disparities, University of Puerto Rico, Medical Sciences Campus, San Juan, Puerto Rico (RT, CMH, GS, NYO, CDZ, LES).

Address correspondence and reprint requests to: Rosimar Torres; Medical Sciences Campus; PO BOX 365067; San Juan, PR 00936-5067; 787-766-0030; 787-771-4739 (fax); rotres@rcm.upr.edu

Rosimar Torres, MD; Cibel M. Hilerio, PhD(c); Georgina Silva, MPHE; Nyrma Y. Ortiz, PhD(c); Carmen D. Zorrilla, MD; Lydia E. Santiago, PhD

INTRODUCTION

The World Health Organization estimates that at least 333 million new cases of curable sexually transmitted infections (STIs) occurred in the world in 1995.¹ This is of particular concern and relevance because of the links between STI and HIV. Many of these curable STIs cause genital lesions and inflammation, which may increase the sexual transmission of HIV. Therefore, every newly diagnosed STI could indicate a new HIV infection.² STIs pose a serious threat not only to women's sexual and mental health but also to the general health and well being of the population.³

HIV affects millions of people worldwide. High-risk sexual behavior, such as lack of condom use, anal receptive sexual intercourse, or any sexual activity, particularly those that result in breakdown of genital tissue barriers, promotes transmission of the HIV virus.⁴

The AIDS epidemic in Puerto Rico has been fueled by injection drug users, particularly men.⁵ AIDS incidences are rising at alarming rates among women, who are the fastest growing subgroup of AIDS cases in the United States.⁶ In Puerto Rico, heterosexual transmission is the principal risk category for women. Of the total adult cases reported from January 1981 through December 2006 ($N=31,551$), 75% were reported in men and 25% in women. A total of 6096 cases of HIV have been reported in the island from June 2003 through December 2006; of these 66% were in men and 34% were in women. In order to implement prevention studies among women, diverse groups need to be characterized by risk behavior or exposure.

This study is a secondary data analysis. The main objective of the original study was to translate the RESPECT-2, a rapid HIV test risk reduction intervention, created by the Centers for Disease Control and Prevention (CDC), and culturally adapt and pilot the RESPECT-2⁷ for the Puerto Rican population. The Spanish RESPECT 2 was perceived as insensitive and repetitive for the Puerto Rican population. Because of this, a new intervention was developed, the RReduC-PR (Risk Reduction Counseling-Puerto Rico). The purpose of this article is to describe the perceptions of risk behaviors, knowledge, and concerns about HIV and STI among high-risk and low-risk women.

METHODS

This longitudinal study is composed of four (phase I) and six visits (phase II) per participant. Women from three distinct risk behavior groups participated: women recruited from a community-based organization (CBO), which includes street sex workers, crack users, and sexual partners of intravenous drug users; participants from an STI clinic; and participants from a family planning clinic (FPC) in Puerto Rico. All the participants gave consent and were ≥ 21 years of age. This is an ongoing study, with a target of 270 participant interviews. To date, 100 participants have been interviewed.

CBO participants were recruited by an outreach. Potential participants from the CBO were also identified by an outreach. The outreach provided transportation to and from the clinic. Participants from the FPC and the STI

clinic were recruited through fliers placed at the facilities. Potential participants contacted the center and scheduled a visit. A total of 138 women expressed interest in participating in the study; 100 were eligible and enrolled.

The RReduC-PR is a risk reduction intervention that uses the rapid HIV test for Puerto Ricans. This new instrument was adapted from the RESPECT-2, an intervention developed by the CDC. After translating the RESPECT-2 into Spanish, the intervention was piloted. The interviewed women perceived the intervention as insensitive and repetitive, so a new intervention was developed, the RReduC-PR. This intervention preserves the essence of the risk-reduction questions of the RESPECT-2 and is culturally sensitive to the Puerto Rican population. It uses face-to-face interviews and a self-administered questionnaire.

In HIV pre-counseling, the participant's knowledge, current risks of HIV and STIs, utilized risk-reduction techniques, support networks, misconceptions, moral values, cultural beliefs, and concerns about HIV were assessed. A personalized risk reduction plan was then designed with the participant based on her individual situation, values, and practices. Then the rapid HIV test was performed. The sociodemographic instrument and the Center for Epidemiological Studies Depression Scale⁸ were also administered. After 30 minutes, the HIV test results were disclosed, and post-counseling was conducted according to the test result. This counseling varies according to the participant's result. If the result was non reactive, the participant was questioned about her feelings towards this result, possible barriers, and facilitators toward reducing risks. The post-counseling session also included the discussion of the implementation of the previously designed risk reduction plan. If the rapid HIV test result was reactive, the interviewer assessed test result comprehension. The participant was informed that

the result is preliminary and urged the importance of obtaining a confirmatory blood test. Support networks were assessed, and a list of agencies that can be of help was provided to the participants. Regardless of test results, at the end of each visit, participants were provided feminine hygiene products, female/male condoms, lubricants, and snacks.

Participants were contacted at a three-month interval for the follow-up visits. An additional visit was scheduled in case of a reactive Chlamydia or Gonorrhea result. At followup, test results were explained, and participants were referred for confirmatory examinations or treatments. In the follow-up visits, the participant's contact information and risk-reduction plan were evaluated.

To date, a total of 100 participants have been interviewed, and these data have been analyzed by cohort. Sociodemographic variables were summarized by using means and frequencies. The statistical package used was SPSS 15.1 (SPSS, Inc., Chicago, Ill). Qualitative data obtained from the interview were analyzed by using Krueger's method.⁹

RESULTS

The sociodemographic profile of the participants is shown in Table 1. The age range is 21–56 years. The oldest participants were found in the CBO. Most of the participants from the FPC and the CBO were single. Most participants from the STI clinic were in a consensual relationship. Most of the women from the FPC completed undergraduate studies (71%), while most of the participants from the STI clinic (24%) and the CBO (47%) had not completed high school. Most FPC participants reported having a monthly income \geq \$1200 (43%), while the STI clinic (24%) and CBO (94%) participants reported a monthly income $<$ \$300. Most of the participants from the FPC reported currently being em-

ployed, while most of the STI clinic and CBO participants reported being unemployed.

Participants reported having positive health practices, like exercising, taking vitamins, and having checkups (Table 2). The participants with the most positive health practices were from the FPC followed by the CBO. The FPC participants reported the most positive perception of their health (82%).

Most of the participants from the CBO (77%) reported exchanging sex for money/food/drugs (Table 2). They also reported the highest mean of sexual partners. All participants from the FPC reported being in monogamous relationships (100%). Barrier methods were considered a better alternative among the CBO and STI clinic participants. A trend was observed between the diagnosis of Gonorrhea/Chlamydia and HIV between the groups. These differences were not statistically significant because of the small sample size. Reactive HIV test results were seen only among the CBO participants (11%), and Gonorrhea and Chlamydia were only found among the STI clinic participants (33%). No reactive results were found among the FPC participants.

In-depth analysis of the data indicates that most of the participants do not use condoms or use them inconsistently. A street sex worker mentioned, "I only use condoms with my clients, but not my regular partners." This women's partner is an injection drug user who shares needles with his friends. Some clients would also refuse the use of condoms, and they would agree to have unprotected sex because of the need for money. Some street sex workers who had 20 partners per day mentioned that they found it too difficult to find adequate numbers of condoms. Most FPC participants' concerns about safe sex were regarding pregnancies, not STIs. Most of them reported using birth control pills instead of condoms, since they were in a monogamous relationship. Most of the

Table 1. Sociodemographic characteristics of women participating in an HIV/STI risk-reduction intervention, Puerto Rico

Characteristic	Site of Recruitment		
	FPC (n=28)	STI Clinic (n=21)	CBO (n=51)
Marital Status			
Single	14 (50%)	5 (24%)	20 (38%)
Married	7 (25%)	6 (29%)	1 (2%)
Divorced	1 (4%)	0	8 (16%)
Widowed	0	0	6 (12%)
Separated	1 (4%)	2 (10%)	4 (8%)
Consensual relationship	5 (17%)	8 (37%)	12 (24%)
Age (years)			
Mean	28	34	37
Range	21-41	21-54	21-56
Education			
Less than high school	0	5 (24%)	24 (47%)
Completed high school	5 (18%)	9 (43%)	21 (41%)
Associate degree	1 (4%)	3 (14%)	2 (4%)
Undergraduate studies	20 (71%)	4 (19%)	4 (8%)
Graduate studies	2 (7%)	0	0
Income			
<\$300	2 (7%)	5 (24%)	48 (94%)
\$301-\$600	3 (11%)	9 (42%)	2 (4%)
\$601-\$900	5 (18%)	2 (10%)	0
\$901-\$1200	6 (21%)	2 (10%)	0
>\$1200	12 (43%)	3 (14%)	1 (2%)
Hispanic origin			
Employed	26 (93%)	20 (95%)	49 (96%)
	23 (82%)	8 (38%)	5 (10%)

STI = sexually transmitted infection, FPC = family planning clinic, CBO = community-based organization.

STI clinic participants who did not practice safe sex indicated not using condoms because they were in a stable relationship or because their partner

would consider the use of condoms a sign of mistrust or infidelity.

Perceptions about barrier methods varied per site. The most positive

perceptions were from the STI clinic and CBO participants. They trusted the barrier method and used it whenever available. Most of the FPC participants

Table 2. Health behaviors and sex practices among women participating in an HIV/STI risk-reduction intervention, Puerto Rico

	Site of Recruitment		
	FPC (n=28)	STI Clinic (n=21)	CBO (n=51)
Positive health behaviors			
Exercise	15 (54%)	12 (57%)	31 (61%)
Vitamins	19 (68%)	10 (48%)	29 (57%)
Recent checkups	16 (57%)	13 (62%)	16 (31%)
Positive health image	23 (82%)	11 (52%)	32 (63%)
Negative health behaviors			
Cigarette Smoking	6 (21%)	11 (53%)	43 (84%)
Alcohol	21 (75%)	13 (62%)	32 (63%)
Sex practices			
Exchange sex for money/food/drugs	0	0	39 (77%)
Sex with same sex	3 (11%)	3 (14%)	15 (29%)
Mean number of sexual partners (<3 months)	1	1	114
Forced sex	0	2 (10%)	12 (24%)
Monogamous relationship	27 (100%)	14 (67%)	8 (16%)

STI = sexually transmitted infection, FPC = family planning clinic, CBO = community-based organization.

had negative attitudes toward the use of condoms. Many indicated that they caused them discomfort or allergic reactions or that they frequently broke. A participant from the FPC indicated, "I don't trust condoms, they break frequently."

Misconceptions and lack of knowledge were also observed. A sex worker mentioned that she used condoms whenever possible, but if they were not available, she would clean herself with chlorine bleach after sex. After receiving her negative HIV test result, she said that the bleach had worked, even after she had been educated about barrier methods and risk-reduction plans. A lesbian woman from the STI clinic indicated that she would not change the condom after vaginal or anal sex or when it was the other partner's turn to use a sex toy.

The attitudes and concerns toward an HIV/STI diagnosis varied, but participants from the CBO and STI clinic expressed greater concern. Although stigma and death were common concerns between the groups, the participants from the CBO tended to have the most positive attitudes toward a positive diagnosis. Most of the FPC and CBO participants mentioned that their family's pain would be their greatest concern, followed by their own health. Most STI clinic participants indicated that they would take better care of themselves.

Even though acquiring HIV is of great concern, most participants acknowledged risk behaviors such as inconsistent condom use. The main reason for low condom use among women who found themselves at less risk was lack of risk perception. Most of

the FPC participants engaged in unprotected intercourse and considered themselves at less risk for STIs because they were in a monogamous relationship. Women from the CBO reported condom accessibility to be the main barrier for practicing safe sex.

DISCUSSION

This study represents one of a few research efforts directed at increasing our knowledge of the risk factors for HIV/STI infection among women in Puerto Rico. Misconceptions, religion, and cultural beliefs had a strong influence in the participant's sexual practices. Our findings are congruent with others that have reported lack of correlation between knowledge and STI protection.¹⁰⁻¹³ Even though risk factors and behaviors for acquiring HIV/STI are known, participants often do not protect themselves.

This is an ongoing study, recruitment is still in progress, and the small sample size is a limitation.

ACKNOWLEDGMENTS

This study is being funded by the National Center for Research Resources NCR 1-U54RR019507 and has been conducted with the collaboration of the Maternal Infant Studies Center, Iniciativa Comunitaria de Investigación, the American Center for Sexually Transmitted Infections, and the Family Planning Clinic Pro-Familia.

REFERENCES

1. World Health Organization. Sexually transmitted disease: three hundred and thirty-three

- million new curable cases in 1995. Geneva: World Health Organization; 1995.
2. Andrews G, Studd J. *Women's Sexual Health*. 3rd ed. London: Elsevier; 2005.
3. Center for Mental Health Services. HIV Prevention news—biopsychological update. *Mental Health AIDS Newsletter*. Available at: <http://mentalhealthaids.samhsa.gov/Winter2007/prevention4.asp>.
4. Centers for Disease Control and Prevention. HIV/AIDS surveillance report. Atlanta. 2002;14:1-48.
5. Vigilancia SIDA San Juan, Puerto Rico Department of Health. Epidemiologic survey and report for sexually transmitted disease in Puerto Rico until December 15, 2006. San Juan, PR: Department of Health; 2006.
6. Centers for Disease Control and Prevention. Update: AIDS among women—United States, 1994. *MMWR*. 1995;44(5):81-84.
7. Centers for Disease Control and Prevention. RESPECT-2 study overview. Available at: <http://www.cdc.gov/hiv/projects/respect-2/overview.htm>. Accessed 3/26/2006.
8. Radloff LS. The CESD scale: a self-report depression scale for research in the general population. *Applied Psychological Measurement*. 1977;1:385-401.
9. Krueger RA. *Focus Groups: a Practical Guide for Applied Research*. 2nd ed. Thousand Oaks (Calif): Sage Publications, Inc.; 2000.
10. Hunter L. Condom use of female college students as a function of information versus role play and modeling. *Electronic Journal of Human Sexuality*. 1998. Available at: <http://www.ejhs.org/volume1/hunter/hunter1.htm>.
11. Svenson G, Hanson B. Are peer and social influences important components to include in HIV-STD prevention models. *Eur J Public Health*. 1997;6:203-211.
12. UNAIDS. Joint United Nations Programme on HIV/AIDS. HIV prevention needs and successes: a tale of three countries. Geneva: UNAIDS; 2001.
13. Becker M, Joseph JG. AIDS and behavioral change to reduce risk: a review. *Am J Public Health*. 1988;4:394-410.