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Racial/Ethnic Differences in Young Women's Health-Promoting Strategies to Reduce Vulnerability to Sexually Transmitted Infections

Danielle Cipres, B.S. [a,*], Amanda Rodriguez, M.P.H. [b], Janette Alvarez, M.P.H. [b], Lisa Stern, A.P.R.N. [c], Jody Steinauer, M.D., M.A.S. [b,d], and Dominika Seidman, M.D., M.A.S. [b,d]

[a] *University of California, San Francisco, School of Medicine, San Francisco, California*
[b] *Department of Obstetrics, Gynecology, and Reproductive Sciences, University of California, San Francisco, San Francisco, California*
[c] *Planned Parenthood Northern California, San Francisco, California*
[d] *Bixby Center for Global Reproductive Health, San Francisco, California*

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A B S T R A C T

Purpose: Young women of color in the United States are disproportionately affected by sexually transmitted infections (STIs). We characterize the protective behaviors used by young women to reduce their vulnerability to STI acquisition and examine how STI prevention strategies differ by race/ethnicity.
Methods: From 2015 to 2016, women aged 13–24 years presenting to five Northern California family planning clinics were surveyed about their STI prevention strategies. The chi-squared tests and multivariable logistic regression identified associations between race/ethnicity and use of sexual health-promoting strategies.
Results: Among 790 women, the most common strategies included condom use (67%), asking partners about STIs (47%), limiting sexual partners (35%), frequent STI screening (35%), and asking partners about other sexual partners (33%). Black, Hispanic, and Asian women had decreased odds of utilizing strategies before intercourse compared with white women (adjusted odds ratio $[aOR]_{black}$: .25, confidence interval [.14–.47]; $aOR_{Hispanic}$: .36, CI [.20–.65]; aOR_{Asian}: .44, CI [.23–.84]). Black women had decreased odds of using strategies requiring partner involvement (aOR_{black}: .35, CI [.13–.92]). White women were more likely to report that providers discussed condoms (aOR: 2.53, CI [1.04–6.15]) and talked to partners about STIs (aOR: 2.56, CI [1.52–4.32]) compared with nonwhite women. Black and Hispanic women were more likely to feel very uncomfortable discussing lifetime sexual partners (aOR_{black}: 4.26, CI [1.36–13.30] and $aOR_{Hispanic}$: 5.35, CI [1.79–15.99]) and condom use (aOR_{black}: 3.05, CI [1.14–8.15] and $aOR_{Hispanic}$: 2.86, CI [1.11–7.35]) with providers.
Conclusions: Young women use diverse strategies to prevent STIs that vary by race/ethnicity. Providers can use these findings to improve sexual health counseling and promote equitable education and services.

IMPLICATIONS AND CONTRIBUTION

Young women use diverse strategies to reduce their vulnerability to sexually transmitted infections. Racial/ethnic differences in protective behaviors may contribute to disparities in sexually transmitted infections. Further research should explore the reasons driving variable protective practices and interventions to promote the sexual health of all young women.

Half of all sexually transmitted infections (STIs) in the United States occur in young adults aged 15–24 years, with striking racial/ethnic disparities in STI prevalence [1,2]. Young black women have nearly four times the odds of having an STI compared with young white women [3]. Comparatively, rates of chlamydia, gonorrhea, and syphilis are nearly twice as high for

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* Address correspondence to: Danielle Cipres, University of California, San Francisco, School of Medicine, 140 Locksley Avenue, #1, San Francisco, CA 94122.
E-mail address: Danielle.cipres@ucsf.edu (D. Cipres).

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young Hispanic women compared with white women [1,4]. Asian adolescents have comparatively lower rates of STIs but are especially understudied in evaluations of sexual health outcomes [1,4].

Reasons for disparities in STIs are multifactorial, including structural and community factors. For example, studies suggest that black women are more likely to encounter a partner with an infection owing to racially segregated partnerships. High incarceration rates among black men result in a smaller pool of male partners. Monogamous black women are therefore more likely to encounter a male partner who has an STI and/or has had multiple sexual partners in the past year [5–7]. For Hispanic women, relationship power differentials and desires for relationship intimacy have been described, which impact adolescents' ability to negotiate condom use [8,9]. Furthermore, health care providers' patterns of STI testing have been shown to vary by patient race/ethnicity, which may further propagate disparities in STIs [10]. Variable screening and treatment decisions may reflect provider bias and consequently contribute to minority patients' disparate experiences with family planning care [11,12].

Individual factors may also contribute to disparities in STIs, and research to date has focused primarily on risk-taking behaviors in young women. Although various behaviors are associated with STIs, sexual practices alone have not accounted for racial/ethnic disparities [13]. In fact, young black women have higher rates of STIs despite having fewer partners, higher condom use, and being less likely to engage in oral and anal sex compared with young white and Hispanic women [13,14].

Limited studies explore how women use sexual health-promoting behaviors. Evidence suggests that young adults assess and manage their infection risks in a purposeful manner [15]. However, studies focus primarily on abstinence and condom use as STI prevention efforts, neglecting other health-promoting strategies used by young women [16–18]. Furthermore, no studies explore how these protective behaviors vary by race/ethnicity. This study aims to characterize health-promoting strategies used by young women to reduce their vulnerability to STIs and to examine how these strategies differ by race/ethnicity. Secondarily, we identify differences in provider-patient discussions about STI prevention, young women's comfort with discussing sexual health topics with providers, and young women's preferences for characteristics of infection prevention methods.

Methods

This study is a subanalysis of data collected as part of a larger cross-sectional study to evaluate patient perspectives on integration of pre-exposure prophylaxis for HIV prevention into family planning care. Participants were recruited from September 2015 to April 2016 from waiting rooms of five family planning clinics in the San Francisco Bay Area. Eligible participants in the overall study were English- or Spanish-speaking, 13- to 45-year-old, women whose HIV status was negative or unknown and were presenting for family planning services. Participants eligible for subanalysis were 13- to 24-year-old women who were sexually active with men. Verbal informed consent was obtained from all participants, and parental consent was waived because of the confidential nature of the clinic services and low-risk nature of the study. The University of California San Francisco Institutional Review Board approved this study.

Participants completed a tablet-administered, 15-minute anonymous survey including demographic information, sexual and reproductive health history, sexual practices, perceived STI risk, and worry about acquiring an STI. Women self-identified their race/ethnicity by selecting all that applied from a pre-specified list. Participants who indicated multiple racial/ethnic identities were first categorized as Hispanic ethnicity if they were identified as Latina/Hispanic, whereas remaining multiracial individuals were assigned to their nonwhite racial identities for analysis [19]. Owing to the small number of participants identifying as Native Hawaiian/Pacific Islander, these respondents were included in the Asian subgroup for analysis.

Participants were presented with a list of strategies to reduce vulnerability to STIs and were asked to identify which strategies they had used in the past 6 months. For analysis, health-promoting strategies were grouped into preparatory versus event-driven actions and partner-independent versus partner-dependent actions. Preparatory actions used in advance of intercourse included limiting the number of partners or frequency of sex, having partners tested for STIs, asking partners about other sexual partners and STIs, and HIV pre-exposure prophylaxis. Event-driven actions were defined as strategies used during or after sex including condom use, changing the type of sex (vaginal, anal, or oral), getting tested for STIs, and using HIV postexposure prophylaxis. Partner-dependent actions necessitated discussion with or cooperation by a partner to carry out the strategy, including condoms, changing the type of sex, asking partner about other sexual partners or STIs, and requesting partners to test for STIs. Having sex exclusively with "safe" partners presumed to not have an STI was also categorized as partner dependent since this assumption is often shaped by partners' disclosure or nondisclosure of risk factors or STI status.

Descriptive statistics were calculated, with differences assessed by the Pearson's chi-squared test for analysis of categorical variables and Student t test for continuous variables. Covariates associated with race/ethnicity in bivariate analysis ($p < .10$) were included in logistic regression analysis of the primary outcome. Based on previously reported association with STIs, age, income, insurance, marital status, and having a prior STI were a priori determined to be included in adjusted analyses [20–24]. Multivariable analysis was performed to assess association between race/ethnicity and use of any protective behaviors, preparatory actions, and partner-dependent actions, while adjusting for associated factors. Consistent with prior research on sexual health disparities, non-Hispanic white women were used as the reference group to permit comparison of results with other studies [3,11].

We also use descriptive statistics to analyze young women's report of discussions with providers about health-promoting strategies, comfort during sexual health conversations, and preferences for STI prevention methods by race/ethnicity. To assess comfort during sexual health discussions, participants responded on a four-point Likert-type scale ranging from very uncomfortable to very comfortable with regards to how they felt about conversations with providers about condom use and lifetime sexual partners.

Results

In the parent study, 2,389 women were approached; 271 declined and 149 were ineligible, leaving 1,969 surveys for analysis. Seven hundred ninety respondents met the age and