Original Study

# Racial and/or Ethnic Differences in Formal Sex Education and Sex Education by Parents among Young Women in the United States

Rachel H. Vanderberg MD [1], Amy H. Farkas MD [1], Elizabeth Miller MD, PhD [2], Gina S. Sucato MD [2], Aletha Y. Akers MD, MPH, FACOG [3], Sonya B. Borrero MD, MS [1,4,*]

[1] Division of General Internal Medicine, University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania
[2] Division of Adolescent and Young Adult Medicine, Department of Pediatrics, Children's Hospital of Pittsburgh of the University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania
[3] Craig Dalsimer Division of Adolescent Medicine, Children's Hospital of Philadelphia, Philadelphia, Pennsylvania
[4] Center for Health Equity, Research, and Promotion, VA Pittsburgh Healthcare System, Pittsburgh, Pennsylvania

A B S T R A C T

*Study Objective:* We sought to investigate the associations between race and/or ethnicity and young women's formal sex education and sex education by parents.
*Design, Setting, and Participants:* Cross-sectional analysis of a nationally representative sample of 1768 women aged 15-24 years who participated in the 2011-2013 National Survey of Family Growth.
*Interventions and Main Outcome Measures:* We assessed 6 main outcomes: participants' report of: (1) any formal sex education; (2) formal contraceptive education; (3) formal sexually transmitted infection (STI) education; (4) any sex education by parents; (5) contraceptive education by parents; and (6) STI education by parents. The primary independent variable was self-reported race and/or ethnicity.
*Results:* Nearly all of participants (95%) reported any formal sex education, 68% reported formal contraceptive education, and 92% reported formal STI education. Seventy-five percent of participants reported not having any sex education by parents and only 61% and 56% reported contraceptive and STI education by parents, respectively. US-born Hispanic women were more likely than white women to report STI education by parents (adjusted odds ratio = 1.87; 95% confidence interval, 1.17-2.99). No other significant racial and/or ethnic differences in sex education were found.
*Conclusion:* There are few racial and/or ethnic differences in formal sex education and sex education by parents among young women.
*Key Words:* Contraception, Disparities, Parents, Race, Sex education

## Introduction

In the United States, young women from minority racial and/or ethnic groups experience more adverse sexual health outcomes than young white women, including higher rates of sexually transmitted infections (STIs) and unintended pregnancy.[1–10] A Centers for Disease Control and Prevention report from 2013 indicated that among women aged 15-24 years, the rate of chlamydia infection was more than 4 times greater for black women compared with white women, and more than 2 times greater for Hispanic women. Among women aged 15-24 years, the rate of gonorrhea was 10 times greater for black women and almost twice as high for Hispanic women compared with white women.[2] A 2010 Centers for Disease Control and Prevention report found the rates of new HIV infection among black and Hispanic women aged 15-24 years were greater than white women.[3] In 2008, among women aged 15-44 years, the unintended pregnancy rate was 38 per 1000 white women, 79 per 1000 Hispanic women, and 92 per 1000 black women.[5] Women aged 15-24 years had the highest proportion of pregnancies that were unintended.[6]

Adverse sexual health outcomes commonly result from engagement in risky sexual behaviors. Formal sex education provided by schools, churches, and community programs and sex education by parents have been identified as important factors in reduction of adolescent risky sexual behavior. Formal sex education and sex education by parents are both associated with a delay in adolescents' sexual debut, fewer sexual partners, and increased use of condoms and birth control.[11–14] Thus, many experts advocate for enhancement of comprehensive sex education from formal sources and from parents to help adolescents make informed sexual health decisions and reduce risky sexual behaviors.

Few studies have explored whether there are racial and/or ethnic differences in young women's report of formal sex education and sex education by parents. One study that compared data from the 1995 and 2002 National Survey of Family Growth (NSFG) demonstrated that, in 2002, black women were less likely than white women to report formal contraceptive education (64% vs 72%); there were no statistically significant differences regarding formal contraceptive education between white, black, and Hispanic women in 1995.[15] A similar study that compared data from the 1988, 1995, and 2002 NSFG found that reports of contraceptive education by parents and STI education by

The authors indicate no conflicts of interest.

* *Address correspondence to*: Sonya B. Borrero, MD, MS, Center for Research on Health Care, University of Pittsburgh, 230 McKee Place, Suite 600, Pittsburgh, PA 15213; Phone: (412) 692-4841
*E-mail address:* borrerosp@upmc.edu (S.B. Borrero).

1083-3188/$ - see front matter 
http://dx.doi.org/10.1016/j.jpag.2015.06.011

parents were not significantly different among racial and/or ethnic groups in 1995 or 2002.[16] However, in 1988, compared with black women, white women were less likely to report contraceptive education by parents and Hispanic individuals were less likely to report STI education by parents (69% vs 58% and 60% vs 39%, respectively).

Because of persistent racial and/or ethnic disparities in young women's sexual health outcomes and the evolving sexual health curricula in US schools, an examination of more recent data on young women's reports of sex education is needed to guide sexual health education policy and practice. Thus, we used NSFG data from 2011-2013 to examine the association between race and/or ethnicity and young women's reports of formal sex education and sex education by parents. Racial and/or ethnic differences in the types of formal sex education and sex education by parents might illuminate targets for intervention to help reduce sexual health disparities.

## Materials and Methods

### *Data Source and Sample*

This study used data from the 2011-2013 NSFG, a nationally representative survey of US men and women aged 15-44 years. The NSFG is conducted by the Centers for Disease Control and Prevention's National Center for Health Statistics to provide national estimates on reproductive health measures including behaviors and outcomes related to pregnancy, contraception, infertility, sexual activity, and marriage. Cross-sectional data were collected via in-person interviews from September, 2011 through September, 2013. The methodology of the NSFG is detailed elsewhere.[17] The 2011-2013 NSFG included 5601 women. Black, Hispanic, and women in their teens were oversampled. Our study sample included 1768 young women aged 15-24 years because only this age group was asked about sex education. Participants were included if they answered items that assessed formal sex education and sex education provided by parents.

### *Measures*

We examined 2 sets of questions regarding sex education to determine if participants had ever received formal sex education, sex education by parents, or both. Formal sex education was defined as education at school, church, a community center, or some other place.

The first set of questions included 4 items that asked participants if, before age 18 years, they had received any formal education on: (1) how to say no to sex; (2) methods of birth control; (3) STIs; and/or (4) how to prevent HIV. Response options were, “yes,” “no,” or “don't know.” Participants who answered “yes” to any of the 4 items were categorized as having received “any” formal sex education. We were also interested in whether there were racial and/or ethnic differences regarding contraceptive and STI education. Thus, participants who answered “yes” to item 2 were categorized as having received formal contraceptive education and participants who answered “yes” to items 3 or 4 were categorized as having received formal STI education.

An additional 6 items inquired if, before the age of 18 years, participants had discussed the following with a parent/guardian(s): (1) how to say no to sex; (2) methods of birth control; (3) where to get birth control; (4) STIs; (5) HIV/AIDS; and/or (6) how to use a condom. Participants who answered “yes” to any of these items were categorized as having received “any” sex education by parents. Participants who answered “yes” to items 2, 3, or 6 were categorized as having received contraceptive education by parents. Participants who answered “yes” to items 4 or 5 were categorized as having received STI education by parents.

Thus, our 6 main outcomes assessed participants' report of: (1) any formal sex education; (2) formal contraceptive education; (3) formal STI education; (4) any sex education by parents; (5) contraceptive education by parents; and (6) STI education by parents.

The primary independent variable was self reported-race and/or ethnicity. On the basis of a series of questions on participant's ethnicity and race, the NSFG categorizes participants' race and/or ethnicity as: Hispanic, non-Hispanic black, non-Hispanic white, or non-Hispanic other. Participants were also asked if they were born outside of the United States. Because a recent study found that foreign-born Hispanic women had lower contraceptive knowledge than US-born Hispanic women, we separated Hispanic women according to nativity (US-born vs foreign-born).[18] Because of the heterogeneity of the participants, we excluded participants who categorized themselves as non-Hispanic other (n = 465). Thus, for this study, participants were categorized as white, black, US-born Hispanic, or foreign-born Hispanic. Sociodemographic factors including age, education, poverty level, employment status, insurance status, religion, childhood family structure, mother's education, ever having sex, and previous pregnancy were examined as potential confounders.

### *Statistical Analyses*

Covariates were compared according to race and/or ethnicity using $\chi^2$ tests. Bivariate analyses were used to examine the association between all independent variables and our 6 outcome variables and unadjusted odds ratios were calculated for each pair. Multivariable logistic regression models were then used to examine the adjusted odd ratios for each racial and/or ethnic group and our 6 main outcomes, controlling for all covariates. Analyses were conducted using the Stata 11 SE software (StataCorp) with appropriate adjustment for the NSFG's complex sample design. Sampling weights provided by NSFG were applied and all percentages shown are weighted appropriately. This study was approved by the University of Pittsburgh Institutional Review Board.

## Results

### *Sample Characteristics*

Our study cohort included 1768 young women aged 15-24 years at the time of the interview. Table 1 shows the sociodemographic characteristics of the study sample