NIH Public Access
Author Manuscript
Contraception. Author manuscript; available in PMC 2013 January 08.

Published in final edited form as:
Contraception. 2011 September ; 84(3): 273–279. doi:10.1016/j.contraception.2011.01.004.

Perceived racial, socioeconomic and gender discrimination and its impact on contraceptive choice

Karla Kossler[1], **Lindsay M. Kuroki**[1], **Jenifer E. Allsworth**[1,2], **Gina M. Secura**[2], **Kimberly A. Roehl**[2], and **Jeffrey F. Peipert, PhD**[1,2]

[1]Department of Obstetrics and Gynecology, Washington University in St. Louis, School of Medicine, St. Louis, MO, 63110

[2]Division of Clinical Research, Department of Obstetrics and Gynecology, Washington University in St. Louis, School of Medicine, St. Louis, MO, 63110

Abstract

Background—The study was conducted to determine whether perceived racial, economic, and gender discrimination has an impact on contraception use and choice of method.

Methods—We analyzed the first 2,500 women, aged 14–45 years enrolled in the Contraceptive CHOICE Project, a prospective cohort study aimed to reduce barriers to long-acting reversible contraception. Items from the "Experiences of Discrimination" (EOD) scale measured experienced race-, gender-, and economic-based discrimination.

Results—Overall, 57% of women reported a history of discrimination. Thirty-three percent reported gender- or race-based discrimination and 24% reported discrimination attributed to socioeconomic status (SES). Prior to study enrollment, women reporting discrimination were more likely to report any contraception use (61% vs. 51%, $p<0.001$), but were more likely to use less effective methods (e.g., barrier methods, natural family planning or withdrawal; 41% vs. 32%, $p<0.001$). In adjusted analyses, gender-, race- or SES-based discrimination were associated with increased current use of less effective methods (adjusted risk ratio (aRR) 1.22, CI 1.06–1.41; aRR 1.25, CI 1.08–1.45; aRR 1.23, CI 1.06–1.43, respectively). After enrollment, 67% of women with history of experience of discrimination chose a long-acting reversible contraceptive method (intrauterine device or implantable) and 33% chose a depo-medroxyprogesterone acetate or contraceptive pill, patch or ring.

Conclusions—Discrimination negatively impacts a woman's use of contraception. However, after financial and structural barriers to contraceptive use were eliminated, women with EOD overwhelmingly selected effective methods of contraception. Future interventions to improve access and utilization of contraception should focus on eliminating barriers and targeting interventions that encompass race-, gender-, and economic-based discrimination.

Keywords

Discrimination; contraception; race; socioeconomic status; gender

© 2012 Elsevier Inc. All rights reserved.

Corresponding author: Jenifer E. Allsworth, Campus Box 8219, 4533 Clayton Avenue, Washington University in St. Louis School of Medicine, Saint Louis, MO 63110, Tel: 314-747-6434, Fax: 314-747-4019, allsworthj@wudosis.wustl.edu.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

$watermark-text

$watermark-text

$watermark-text

$watermark-text

$watermark-text

$watermark-text

1. Introduction

Efforts to identify and overcome disparities in health status for disadvantaged populations continue to be a high priority across all fields of medicine, especially women's health. Discriminatory practices and policies that compromise women's well -being or impede their economic and social opportunities need to be addressed. Previously published reports have not only documented that perceived prejudice in health care delivery is significantly higher in women than in men [1], but more specifically, that the majority of African Americans report having at least one experience with discrimination in their lifetime across a variety of domains, including the workplace and medical care [2–3]. Already a foundation exists to further explore the interplay between discrimination and race, socioeconomic status, and gender; however few studies have undertaken this task within the realm of women's reproductive health.

Despite increasing options for safe, effective family planning, women continue to face a number of obstacles, especially those who are an ethnic minority or from a socially disadvantaged background. Examples of such barriers include lack of insurance coverage, reduced access to medical care, poverty, inadequate resources, mistrust of health care systems, and living in communities with high prevalence of sexually transmitted infections (STIs). In the United States, the rates of chlamydia, gonorrhea, and syphilis infection in African American women are 8, 19 and 7 times higher, respectively, than that among white women [4].

The persistence of racial disparity in women's health outcomes has stimulated scientific interest in other factors that may account for such disparities. Given the known negative effects of discrimination on mental and physical health [5,6], recent attention has been drawn to better understanding the relationship between perceived discrimination and health care utilization. Findings from a cross-sectional study of 326 African American women showed that 67% reported race-based discrimination when obtaining family planning service, especially those women with stronger Black identity, younger age, and lower income [2]. Other studies have demonstrated an association between perceived discrimination and substituting alternative medicine for conventional care; medical care delays (e.g., obtaining prescriptions, treatments, or tests); and non-adherence to medical advice [7–11].

Despite this growing body of literature, there still remains limited data on women's present day experiences of discrimination, especially within preventive services and reproductive health care. The objective of our cross- sectional analysis is to examine whether there is a relationship between self-reported discrimination and choice of contraception. Specifically, we hypothesize that prior to study enrollment, use of effective contraceptive methods – that is, intrauterine device, implantable, depo medroxyprogesterone acetate (DMPA), and contraceptive pill, patch and ring - is negatively impacted by perceived racial, economic and gender discrimination. Therefore, by eliminating financial and structural barriers to contraceptive use, we hope to demonstrate a positive effect on women's decision to choose effective methods of contraception compared to less effective methods (e.g., barrier methods, natural family planning or withdrawal) despite any previous experiences with discrimination.

2. Materials and methods

Data from this study were derived from the first 2,500 women enrolled in the Contraceptive CHOICE Project, a prospective cohort study recruiting 10,000 women in the St. Louis region. Participants in this analysis enrolled between August 2007 and December 2008. Each participant is provided the contraceptive method(s) of her choice at no cost to her for

$watermark-text

$watermark-text

$watermark-text

up to three years. Prior to the initiation of the study, all procedures were reviewed and approved by the Washington University in St. Louis School of Medicine Human Research Protection Office. A full description of the methods of this study has been published elsewhere [12]. Screening and enrollment of women for CHOICE began in August 2007 and is currently ongoing. Participants are recruited from university-affiliated clinics and providers, two facilities providing abortion services, and community clinics that provide family planning, obstetric/gynecologic, and/or primary care. Recruitment is also achieved principally through direct patient contact, clinic-based advertising and word of mouth.

Women were eligible to participate if 14–45 years of age, resided in or sought clinical services in designated recruitment sites in the St. Louis region, had been sexually active with a male partner in the past six months or anticipate sexual activity in the next six months, had not had a tubal ligation or hysterectomy, did not desire pregnancy in the next year, and not currently using a contraceptive method or interested in starting a new reversible contraceptive method. Parental consent and minor assent (minor's written agreement) were obtained for participants under 18 years of age. Emancipated minors were able to complete consent without a parent.

The baseline questionnaire collected comprehensive information on demographic characteristics, past and current reproductive history including contraception use, sexual and reproductive history as well as experiences of discrimination and violence. We analyzed information from the baseline questionnaire to assess whether patients have experienced discrimination because of their 1) race, ethnicity, or color; 2) economic position; or 3) gender. We adapted items from the 9-item "Experiences of Discrimination" (EOD) measure, an instrument tested and shown by Krieger et al. [13]. to be a valid and reliable self-report measure of racial discrimination. It was originally based on a prior instrument used in the Coronary Artery Risk Development in Young Adults (CARDIA) study, and first tested in a population of working class African American and Latino adults [14,15]. Confirmatory factor analysis indicated scale reliability was high, and further testing with structural equation modeling demonstrated the EOD had the highest correlation (r=0.79) with an underlying discrimination factor compared to other self-report discrimination measures [13]. Given our specific objectives and appropriate sample population with regards to race/ethnicity, we adapted items from the EOD instrument to answer our study questions. We asked participants the following questions with respect to each of the 3 categories listed above: "Have you ever experienced discrimination, been prevented from doing something, or been hassled or made to feel inferior in any of the following situations: 1) at work or school; 2) getting medical care; 3) on the street or in public; 4) getting a job; 5) getting a house or apartment; or 6) getting contraception?" Response options were yes or no, with positive responses further assessed using the following scale: once, seldom, occasionally, or often.

Prior to, and after, enrollment into the Contraceptive CHOICE Project, we compared whether EOD was associated with selection of an effective method of contraception (e.g., intrauterine device, implantable, depo-medroxyprogesterone acetate or contraceptive pill, patch, or ring) or less effective method of contraception (barriers, natural family planning, withdrawal, etc.) compared to no contraceptive use. We hypothesized that eliminating structural and financial barriers to contraception would eliminate differences in use of effective contraceptives in women with a history of perceived discrimination. Statistical analyses were performed using SAS Software v. 9.2 (SAS Institute, Cary, NC). Categorical variables were compared using either chi-square or Fisher's exact tests; while continuous variables were compared using t-tests. Relative risks were estimated using Poisson regression with robust error variance. This method provides an unbiased estimate of relative risk when a binary outcome is common.

$watermark-text

$watermark-text

$watermark-text

3. Results

We analyzed the first 2,500 women enrolled in the Contraceptive CHOICE Project. Forty-four percent of the cohort were black and over half of women were considered disadvantaged or low socioeconomic status (SES), that is, had trouble paying for basic living expenses or were receiving government assistance (Table 1). Forty- two percent were uninsured. There was a mean number of lifetime sexual partners of 8.3 and 71% of the sample had at least one pregnancy. Forty -four percent had been diagnosed with a sexually transmitted infection and 55% reported a history of violence. Fifty-seven percent of our study sample reported some experience of discrimination (EOD). Thirty-eight percent reported gender discrimination, 34% reported race-based discrimination and 24% reported discrimination attributed to economic status.

Women who reported a history of EOD were more likely compared with women without a history of EOD to be older (mean age 25.4 vs. 24.4 years), have a high school education or higher, and have a mother who obtained a high school education or higher. History of discrimination was also associated with medical insurance status (none or Medicaid/ Medicare vs. private/other), number of lifetime sexual partners (9.4 vs. 7.0) and a history of STI. However, women reporting discrimination did not have higher STI rates at enrollment compared to women reporting no discrimination Further, women with a history of discrimination had higher rates of prior interpersonal violence, smoking, drug and alcohol use compared to women without a history of EOD. There was no difference between the number of unintended pregnancies, history of abortion, or age at first pregnancy in women reporting EOD at enrollment compared to women who did not. These patterns were similar by type of discrimination experienced (gender-, race-, SES-based), with a few exceptions. The most common setting of reported discrimination was at work/school (38%) followed by on the street/in public (36%), while receiving medical care (13%), and obtaining contraception (3%) (data not shown). Black women reported higher rates of race- and economic-based discrimination and lower rates of gender-based discrimination. Specifically, Black women reported higher rates of EOD at work/school, on the street/in public, and while seeking a job or housing compared to their white counterparts. Women of disadvantaged SES reported higher rates of discrimination overall compared to women without disadvantaged SES. The setting in which these experiences occurred were the following: at work/school (41%), while seeking a job (19%) or housing (18%) and obtaining medical care (19%) or contraception (4%).

3.1. Contraceptive choice prior to enrollment

Table 2 presents the contraceptive method chosen as part of the study and the current contraceptive method used prior to enrollment by EOD. Women who reported any EOD were significantly more likely to use a contraceptive method prior to study enrollment (61% vs. 51%, $p<0.001$); but they were more likely to report use of less effective methods (e.g., barrier methods, natural family planning or withdrawal) compared to women with no history of discrimination (41% vs. 32%, $p<0.001$). This finding held true for gender- or race-based discrimination, but not SES-based discrimination. Less effective methods of contraception were more prevalent among white women reporting gender-based discrimination and black women reporting race-based discrimination.

Finally, using multinomial regression, we examined whether EOD was associated with type of method used prior to enrollment (more effective and less effective vs. non-contraceptors) (Table 3). We found that women who reported any EOD and gender-, race- and SES-based discrimination were significantly more likely to report using a less effective method compared to women who did not report discrimination. When stratified by race, these associations were observed only among black women. Prior experience of discrimination

when obtaining medical care or contraception was not associated with type of method used in adjusted models for either white or black women.

3.2. Contraceptive choice once enrolled

When examining contraceptive choice after enrolling in the study, we found that women overwhelmingly selected a long-acting reversible contraceptive (LARC) method (67%; Table 3). The only difference relating to discrimination history is that women reporting race-based discrimination were slightly less likely to choose a LARC method compared to women who did not report race-based discrimination (64% vs. 69%, p=0.03). When stratified by race, we found no difference in chosen method by EOD among white or black women.

4. Discussion

Women who reported EOD had higher rates of any contraceptive use, but were more likely to be using less effective methods of contraception (e.g., barrier methods, natural family planning or withdrawal) than women with no history of discrimination. However, upon enrolling in the Contraceptive CHOICE Project, a study that seeks to remove financial and structural barriers to contraception and provides a brief education on all methods, women with a history of discrimination overwhelmingly selected LARC methods (intrauterine device and implantable), the most effective methods of contraception.

In our study, 57% of women reported experiencing discrimination in the past. Multiple studies have estimated the prevalence of perceived racial discrimination. Mustillo et al. [16] in 2004 found in four metropolitan areas in the U.S. that 41% of black women experienced racial discrimination in the past compared to 5% of white women. However, African Americans reported much lower rates of discrimination in the health care setting. Borrell et al. [17] in 2006, found that 73% of African American women had experienced discrimination, however only 15% experienced discrimination in a health care setting. Women were much more likely to report discrimination in other areas of their life, for example over 42 % of African American women experienced discrimination when getting a job, and 58% experienced discrimination on the street or a public setting. Furthermore, Casagrande et al. [7] in 2007 found that 7% of men and women reported an EOD in the health care setting, and rates did not differ between African Americans and whites.

In 2001, Bird and Bogart [18] conducted a small, cross-sectional telephone survey to explore the relationship of birth control conspiracy beliefs and perceived discrimination to contraceptive attitudes and behavior among a sample of African Americans aged 18 to 45 years. They found that perceived discrimination is associated with more negative attitudes toward contraception, especially pills, and that the majority of African American women report discrimination when obtaining family planning services. A telephone survey of 500 African American women conducted by Thorburn and Bogart [2] showed nearly 30% of respondents reported that, based on their race, a provider encouraged them to use one method of contraception when they preferred another. With the exception of these two studies, we found no other published studies that have examined the relationship between perceived discrimination and choice of contraception when obtaining family planning services. These high reported rates of discrimination when obtaining contraceptives services are in contrast with our findings; where only 3% of African American women and 2% of White women reported discrimination in this setting. This difference could be a consequence of the different demographics between the study sites.

To our knowledge, the Contraceptive CHOICE Project is the first prospective, longitudinal study that examines women's history of discrimination and selection of contraceptive

$watermark-text $watermark-text $watermark-text

$watermark-text

$watermark-text

$watermark-text

method. Our study has a number of strengths that include a large sample size, diverse cohort, and assessment of evidence of discrimination using the EOD instrument. Limitations to the study include non-randomization and potential selection bias. Women were recruited for the study through direct contact, advertisement through clinics, and word of mouth. Perhaps the women who sought enrollment into the Contraceptive CHOICE Project had different perceived experiences of discrimination or differed in their contraceptive history and choices compared to the general population. That is, women who have experienced discrimination may be less trusting of university-based researchers and are less likely to participate in a clinical research project.

Contraceptive decision-making involves many factors; prior experience(s) of discrimination may be one of them. An editorial published in *Contraception* [19] and supported by the Association of Reproductive Health Professionals board of directors and staff entitled, “Ten priorities for women’s health” highlights key public health policies, research and clinical practices needed to improve women’s health and well- being. One stated priority is a call to better understand the underlying issues that affect access and utilization of contraception that remain unanswered. Our findings shed light on the role that perceived discrimination may play in contraceptive method selection and use. Providers should educate their patients about all contraceptive options and minimize personal biases against a patient’s race, gender, and other sociodemographic characteristics.

Acknowledgments

This research was supported in part by a Midcareer Investigator Award in Women’s Health Research (K24 HD01298), by a Clinical and Translational Science Award (UL1RR024992), and by Grant Number KL2RR024994 from the National Center for Research Resources (NCRR), a component of the National Institutes of Health (NIH) and NIH Roadmap for Medical Research. Its contents are solely the responsibility of the authors and do not necessarily represent the official view of NCRR or NIH. Information on NCRR is available at http://www.ncrr.nih.gov/. Information on Re-engineering the Clinical Research Enterprise can be obtained from http://nihroadmap.nih.gov/clinicalresearch/overview-translational.asp.

References

1. LaViest TA, Rolley NC, Diala C. Prevalence and patterns of discrimination among U.S. health care consumers. Int J Health Serv. 2003; 33:331–44. [PubMed: 12800890]
2. Thorburn S, Bogart LM. African American women and family planning services: perceptions of discrimination. Women Health. 2005; 42:23–39. [PubMed: 16418120]
3. Ren XS, Amick BC, Williams DR. Racial/ethnic disparities in health: the interplay between discrimination and socioeconomic status. Ethn Disc. 1999; 9:151–65.
4. Center for Disease Control and Prevention. Trends in Reportable Sexually Transmitted Diseases in the United States. National Surveillance Data for Chlamydia, Ghonorrhea, and Syphillis. 2007. Available at: http://www.cdc.gov/std/stats07/trends.htm. Retrieved May 10, 2010
5. Hausmann LR, Jeong K, Bost JE, Ibrahim SA. Perceived discrimination. Perceived discrimination in health care and health status in a racially diverse sample. Med Care. 2008; 46:905–14. [PubMed: 18725844]
6. Paradies Y. A systemic review of empirical research on self-reported racism and health. Int J Epidemiol. 2006; 35:888–901. [PubMed: 16585055]
7. Casagrande SS, Gary TL, LaVeist TA, Gaskin DJ, Cooper LA. Perceived discrimination and adherence to medical care in a racially integrated community. J Gen Intern Med. 2007; 22:389–95. [PubMed: 17356974]
8. LaVeist TA, Nickerson KJ, Bowie JV. Attitudes about racism, medical mistrust, and satisfaction with care among African American and white cardiac patients. Med Care Res Rev. 2000; 57:146–61. [PubMed: 11092161]

$watermark-text

$watermark-text

$watermark-text

9. O'Malley AS, Sheppard VB, Schwartz M, Mandelblatt J. The role of trust in use of preventive services among low-income African-American women. Prev Med. 2004; 38:777–85. [PubMed: 15193898]
10. Bazargan M, Norris K, Bazargan-Hejazi S, Akhanjee L, Calderon JL, Safvati SD, Baker RS. Alternative healthcare use in the under-served population. Ethn Dis. 2005; 15:531–9. [PubMed: 16259473]
11. Van Houtven CH, Voils CI, Oddone EZ, Weinfurt KP, Friedman JY, Schulman KA, Bosworth HB. Perceived discrimination and reported delay of pharmacy prescriptions and medical tests. J Gen Intern Med. 2005; 20:578–83. [PubMed: 16050850]
12. Secura GM, Allsworth JE, Madden T, Mullersman JL, Peipert JF. The Contraceptive CHOICE project: Reducing barriers to long-acting reversible contraception. Am J Obstet Gynecol. 2010; 203:115. [PubMed: 20541171]
13. Krieger N, Smith K, Naishadham D, Hartman C, Barbeau EM. Experiences of discrimination: validity and reliability of a self-report measure for population health research on racism and health. Soc Sci Med. 2005; 61:1576–96. [PubMed: 16005789]
14. Krieger N, Sidney S. Racial discrimination and blood pressure: the CARDIA Study of young black and white adults. Am J Public Health. 1996; 86:1370–8. [PubMed: 8876504]
15. Krieger N, Waterman PD, Hartman C, Bates LM, Stoddard AM, Quinn MM, Sorensen G, Barbeau EM. Social hazards on the job: workplace abuse, sexual harassment, and racial discrimination--a study of Black, Latino, and White low-income women and men workers in the United States. Int J Health Serv. 2006; 36(1):51–85. [PubMed: 16524165]
16. Mustillo S, Krieger N, Gunderson EP, Sidney S, McCreath H, Kiefe CI. Self-reported experiences of racial discrimination and Black-White differences in preterm and low-birthweight deliveries: the CARDIA study. Am J Public Health. 2004; 94:2125–31. [PubMed: 15569964]
17. Borrell LN, Kiefe CI, Williams DR, Diez-Roux AV, Gordon-Larsen P. Self-reported health, perceived racial discrimination, and skin color in African Americans in the CARDIA study. Soc Sci Med. 2006; 63:1415–27. [PubMed: 16750286]
18. Bird ST, Bogart LM. Perceived race-based and socioeconomic status(SES)-based discrimination in interactions with health care providers. Ethn Dis. 2001; 11:554–63. [PubMed: 11572421]
19. Stewart FH, Shields WC, Hwang AC. Ten priorities for women's health. Contraception. 2006; 74:435– 8. [PubMed: 17157098]

$watermark-text $watermark-text $watermark-text

Contraception. Author manuscript; available in PMC 2013 January 08.

Table 1

Overview of participant characteristics by experience of discrimination

	All women	Experience of discrimination			
		Any	Gender	Race	SES[3]
		N (row %)	*N (row %)*	*N (row %)*	*N (row %)*
All women	N=2500	1419 (57)	956 (38)	838 (34)	605 (24)
Demographic characteristics					
Age, mean ± SD	25.0 ± 5.6	**25.4 ± 5.6**	**25.5 ± 5.6**	**25.6 ± 5.9**	**25.8 ± 5.5**
	N (col %)[4]	*N (row %)*[5]	*N (row %)*	*N (row %)*	*N (row %)*
Race					
White	1086 (44)	**646 (53)**	**496 (41)**	**215 (18)**	**260 (22)**
Black	1209 (49)	**636 (59)**	**362 (33)**	**517 (48)**	**303 (28)**
Other	190 (8)	**128 (67)**	**90 (48)**	**99 (52)**	**39 (21)**
Ethnicity - Hispanic	114 (5)	64 (56)	46 (40)	48 (42)	22 (19)
Trouble paying for basic expenses or government assistance	1281 (51)	**789 (62)**	486 (38)	**502 (39)**	**429 (33)**
Education					
Less than high school	286 (11)	**126 (44)**	**63 (22)**	86 (30)	**48 (17)**
High school or GED	564 (23)	**271 (48)**	**155 (28)**	176 (31)	**138 (24)**
Some college/vocational/technical	1062 (43)	**641 (60)**	**421 (40)**	388 (37)	**289 (27)**
College degree	587 (24)	**381 (65)**	**317 (54)**	188 (32)	**130 (22)**
Education level of mother					
Less than high school	230 (10)	**127 (55)**	**82 (36)**	89 (39)	**56 (24)**
High school or GED	809 (34)	**428 (53)**	**287 (36)**	251 (31)	**210 (26)**
Some college/vocational/technical	630 (26)	**366 (58)**	**229 (36)**	222 (35)	**171 (27)**
College degree	738 (31)	**463 (63)**	**344 (47)**	250 (34)	**153 (22)**
Medical insurance					

$watermark-text $watermark-text $watermark-text

	All women	Experience of discrimination			
		Any	Gender	Race	SES[3]
None	1039 (42)	**613 (59)**	**375 (36)**	**388 (37)**	**323 (31)**
Medicaid/Medicare	214 (9)	**505 (58)**	**375 (43)**	**285 (33)**	**180 (21)**
Private	875 (35)	**112 (52)**	**57 (27)**	**77 (36)**	**54 (25)**
Other[1]	343 (14)	**171 (51)**	**139 (41)**	**81 (24)**	**43 (13)**
Sexual and reproductive Health					
Sex in the past 30 days	2008 (82)	1154 (57)	781 (39)	682 (34)	**508 (25)**
Lifetime sexual partners, mean ± SD	8.3 ± 11.4	**9.4 ± 13.7**	**9.5 ± 13.8**	**9.2 ± 11.5**	**10.1 ± 15.5**
Recent sexual partners, mean ± SD	0.9 ± 0.6	0.9 ± 0.5	0.9 ± 0.5	0.9 ± 0.5	**0.9 ± 0.5**
Ever pregnant	1765 (71)	980 (56)	**610 (37)**	**627 (36)**	**460 (26)**
Age at first pregnancy, mean ± SD[2]	19.5 ± 4.0	19.6 ± 3.9	**19.9 ± 4.2**	19.3 ± 3.9	19.5 ± 3.6
Parity, mean ± SD	0.9 ± 1.2	**0.9 ± 1.1**	**0.8 ± 1.1**	1.0 ± 1.2	**1.1 ± 1.2**
Number of unintended pregnancies, mean ± SD	2.3 ± 1.7	2.4 ± 1.7	2.3 ± 1.5	2.4 ± 1.7	2.5 ± 1.7
History of STI	1081 (44)	**648 (60)**	403 (37)	**462 (43)**	**315 (29)**
History of abortion, mean (±SD)	0.7 ± 1.1	0.8 ± 1.1	**0.7 ± 1.0**	**0.9 ± 1.1**	0.8 ± 1.1
Baseline STD testing (any STD)	125 (7)	74 (59)	43 (34)	**53 (42)**	33 (26)
History of violence	1359 (55)	**933 (69)**	**637 (47)**	**569 (42)**	**439 (32)**
Smoking	1267 (51)	**745 (55)**	**517 (36)**	**386 (37)**	**341 (21)**
Drug use	487 (20)	**320 (66)**	**209 (43)**	179 (37)	**147 (30)**
Alcohol use	1792 (72)	**1063 (59)**	**747 (42)**	598 (33)	445 (25)

Bold = p<0.05.

[1]Other=parents, military or student insurance.

Contraception. Author manuscript; available in PMC 2013 January 08.

$watermark-text

$watermark-text

$watermark-text

[2] N=1765.

Column %: % amongst all women.

Row %: % amongst subgroups by row.

[3] SES – socioeconomic status

[4] Col – column percent, percent among the entire sample

[4] Row – row percent, percent among a subgroup (in that row)

$watermark-text $watermark-text $watermark-text

Contraception. Author manuscript; available in PMC 2013 January 08.

Table 2

Contraceptive method use and choice by experience of discrimination

	All women	EOD		Gender EOD		Race EOD		SES EOD	
		Yes	No	Yes	No	Yes	No	Yes	No
Among all women									
Contraceptive choice [1]									
LARC	1677(67.1)	936(66.0)	741(68.6)	621(65.0)	1052(68.4)	**538(64.2)**	**1139(68.5)**	411(67.9)	1266(66.8)
DMPA, pill, patch, ring	820(32.8)	482(34.9)	338(31.3)	334(34.9)	485(31.5)	**299(35.7)**	**521(31.4)**	194(32.1)	626(33.0)
Other	3(0.1)	1(0.1)	2(0.1)	1(0.1)	2(0.1)	1(0.1)	2(0.1)	0 (0.0)	3(0.2)
Contraceptive method prior to enrollment [2]									
Nothing	1074(43.0)	**551(38.8)**	**523(48.4)**	**362(37.9)**	**710(46.1)**	**331(39.5)**	**743(44.7)**	242(40.0)	832(43.9)
LARC	10 (0.4)	3(0.2)	7(0.7)	**0 (0.0)**	**9(0.6)**	3(0.4)	7(0.4)	2(0.3)	8(0.4)
DMPA, pill, patch, ring	621(24.8)	364(25.7)	257(23.8)	**259(27.1)**	**360(23.4)**	200(23.9)	421(25.3)	136(22.5)	485(25.6)
Other	926(37.0)	**577(40.7)**	**349(32.3)**	**392(41.0)**	**533(34.6)**	**343(40.9)**	**583(35.1)**	**249(41.2)**	**677(35.7)**
Among white women									
	All white women	EOD		Gender EOD		Race EOD		SES EOD	
		Yes	No	Yes	No	Yes	No	Yes	No
Contraceptive choice [1]									
LARC	820 (68)	433 (67)	387 (69)	326 (66)	493 (69)	138 (64)	682 (69)	184 (71)	636 (67)
DMPA, pill, patch, ring	386 (32)	212 (33)	174 (31)	169 (34)	216 (30)	76 (35)	310 (31)	76 (29)	310 (33)
Other	3 (0.3)	1 (1)	2 (1)	1 (1)	2 (1)	1 (1)	2 (1)	0 (0)	3 (1)
Contraceptive method prior to enrollment [2]									
Nothing	463 (38)	**228 (35)**	**235 (42)**	**166 (33)**	**297 (42)**	71 (33)	392 (39)	96 (37)	367 (39)
LARC	5 (0.4)	1 (0.2)	4 (0.7)	0 (0)	5 (0.7)	1 (0.5)	4 (0.4)	1 (0.4)	4 (0.4)
DMPA, pill, patch, ring	363 (30)	201 (31)	162 (29)	162 (33)	199 (28)	64 (30)	299 (30)	72 (28)	291 (31)

$watermark-text $watermark-text $watermark-text

	All women	EOD		Gender EOD		Race EOD		SES EOD	
		Yes	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
Other	453 (37)	**259 (40)**	**194 (34)**	**206 (42)**	**246 (35)**	92 (43)	361 (36)	103 (40)	350 (37)
Among black women									
	All black women	EOD		Gender EOD		Race EOD		SES EOD	
		Yes	No	Yes	No	Yes	No	Yes	No
Contraceptive choice [1]									
LARC	734 (68)	418 (66)	316 (70)	233 (64)	499 (69)	335 (65)	399 (70)	196 (65)	538 (69)
DMPA, pill, patch, ring	352 (32)	218 (34)	134 (30)	129 (36)	223 (31)	182 (35)	170 (30)	107 (35)	245 (31)
Other	--	--	--	--	--	--	--	--	--
Contraceptive method prior to enrollment [2]									
Nothing	515 (47)	**265 (42)**	**250 (56)**	**156 (43)**	**358 (50)**	**213 (41)**	**302 (53)**	128 (42)	**387 (49)**
LARC	5 (1)	2 (0.3)	3 (0.7)	0 (0)	4 (0.6)	2 (0.4)	3 (0.5)	1 (0.3)	4 (0.5)
DMPA, pill, patch, ring	203 (19)	123 (19)	80 (18)	69 (19)	134 (19)	107 (21)	96 (17)	52 (17)	151 (19)
Other	410 (38)	**273 (43)**	**137 (30)**	**154 (43)**	**256 (35)**	**219 (42)**	**191 (34)**	**131 (43)**	**279 (36)**

Bold = $p<0.05$.

Bold & Shade = $p<0.01$.

[1] P value compares LARC to DMPA, pill, patch, ring only.

[2] Contraceptive groups are all Yes/No with only Yes results reported. P-values compare contraceptive group Yes/No to EOD Yes/No.

$watermark-text $watermark-text $watermark-text

Contraception. Author manuscript; available in PMC 2013 January 08.

Table 3

Crude and adjusted relative risks for effective methods and less effective methods at time of enrollment compared to non-contraceptors

	All		White only		Black only	
	RR (95% CI)	**aRR (95% CI)[1]**	**RR (95% CI)**	**aRR (95% CI)[2]**	**RR (95% CI)**	**aRR (95% CI)[2]**
Any EOD						
Effective	1.19 (1.05–1.35)	1.20 (0.99–1.44)	1.13 (0.97–1.32)	1.20 (0.91–1.59)	1.29 (1.02–1.63)	1.12 (0.86–1.45)
Less effective	1.32 (1.18–1.48)	1.30 (1.12–1.51)	1.19 (1.02–1.39)	1.12 (0.89–1.41)	1.51 (1.27–1.80)	1.44 (1.17–1.77)
Gender						
Effective	1.22 (1.08–1.38)	1.02 (0.84–1.23)	1.21 (1.04–1.41)	1.06 (0.80–1.41)	1.10 (0.87–1.40)	0.97 (0.74–1.28)
Less effective	1.22 (1.10–1.36)	1.22 (1.06–1.41)	1.21 (1.05–1.41)	1.17 (0.93–1.46)	1.21 (1.03–1.42)	1.23 (1.01–1.49)
Race						
Effective	1.04 (0.91–1.19)	1.18 (0.97–1.44)	1.10 (0.90–1.33)	1.21 (0.87–1.68)	1.37 (1.09–1.72)	1.17 (0.91–1.51)
Less effective	1.20 (1.08–1.34)	1.25 (1.08–1.45)	1.22 (1.02–1.45)	1.26 (0.98–1.60)	1.34 (1.14–1.57)	1.23 (1.02–1.49)
SES						
Effective	0.98 (0.84–1.13)	1.13 (0.92–1.39)	0.97 (0.80–1.18)	1.25 (0.91–1.70)	1.02 (0.79–1.33)	0.98 (0.72–1.33)
Less effective	1.19 (1.06–1.33)	1.23 (1.06–1.43)	1.11 (0.93–1.32)	1.11 (0.86–1.43)	1.27 (1.08–1.49)	1.32 (1.08–1.60)
Work/school						
Effective	1.12 (0.99–1.27)	1.15 (0.95–1.38)	1.12 (0.96–1.31)	1.25 (0.95–1.65)	1.17 (0.93–1.48)	1.02 (0.78–1.33)
Less effective	1.32 (1.19–1.46)	1.35 (1.17–1.55)	1.31 (1.13–1.51)	1.34 (1.07–1.67)	1.37 (1.18–1.60)	1.32 (1.09–1.59)
Medical care						
Effective	0.87 (0.71–1.07)	1.08 (0.83–1.39)	0.88 (0.68–1.14)	1.25 (0.88–1.77)	0.91 (0.64–1.29)	0.91 (0.60–1.37)
Less effective	1.00 (0.86–1.17)	1.04 (0.86–1.27)	1.02 (0.82–1.26)	1.03 (0.76–1.40)	1.02 (0.81–1.27)	1.08 (0.83–1.40)
Street/public setting						
Effective	1.23 (1.09–1.40)	1.13 (0.93–1.36)	1.14 (0.97–1.33)	0.93 (0.68–1.28)	1.42 (1.13–1.79)	1.27 (0.98–1.65)
Less effective	1.25 (1.13–1.39)	1.27 (1.10–1.47)	1.10 (0.94–1.29)	0.99 (0.78–1.27)	1.44 (1.24–1.69)	1.49 (1.23–1.80)
Getting job						
Effective	0.80 (0.65–0.98)	0.85 (0.65–1.12)	0.66 (0.45–0.95)	0.66 (0.36–1.21)	1.10 (0.84–1.46)	0.95 (0.69–1.31)

$watermark-text $watermark-text $watermark-text

	All		White only		Black only	
	RR (95% CI)	**aRR (95% CI)[1]**	**RR (95% CI)**	**aRR (95% CI)[2]**	**RR (95% CI)**	**aRR (95% CI)[2]**
Less effective	1.10 (0.96–1.26)	1.13 (0.95–1.35)	0.94 (0.73–1.23)	1.00 (0.70–1.42)	1.23 (1.03–1.46)	1.23 (0.99–1.52)
House/apartment						
Effective	1.03 (0.85–1.25)	1.38 (1.09–1.74)	0.93 (0.70–1.24)	1.38 (0.95–2.01)	1.38 (1.04–1.82)	1.51 (1.12–2.04)
Less effective	1.21 (1.05–1.39)	1.36 (1.15–1.61)	1.14 (0.91–1.43)	1.23 (0.90–1.67)	1.33 (1.10–1.59)	1.50 (1.22–1.85)
Contraception						
Effective	0.80 (0.49–1.32)	0.90 (0.49–1.67)	0.75 (0.36–1.54)	1.33 (0.63–2.81)	1.04 (0.53–2.06)	0.71 (0.26–1.99)
Less effective	1.25 (0.97–1.61)	1.07 (0.73–1.58)	1.22 (0.83–1.80)	1.20 (0.64–2.26)	1.22 (0.83–1.78)	1.04 (0.62–1.73)

Effective = intrauterine device, implantable, DMPA, contraceptive pill, patch or ring.

Less effective = barrier method, natural family planning, withdrawal, etc.

Reference category = non-contraceptors.

[1]Age (continuous), race, trouble paying for basics, number of unintended pregnancies (continuous).

[2]Age (continuous), trouble paying for basics, number of unintended pregnancies (continuous).

Contraception. Author manuscript; available in PMC 2013 January 08.