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Racial/ethnic differences in contraceptive preferences, beliefs, and self-efficacy among women veterans

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Abstract

BACKGROUND—Significant racial/ethnic disparities in unintended pregnancy persist in the United States, with the highest rates observed among low-income black and Hispanic women. Differences in contraceptive preferences, beliefs, and self-efficacy may be instrumental in understanding contraceptive behaviors that underlie higher rates of unintended pregnancy among racial/ethnic minorities.

OBJECTIVES—Our objective was to understand how contraceptive preferences, beliefs, and self-efficacy vary by race and ethnicity among women veterans.

STUDY DESIGN—We analyzed data from the Examining Contraceptive Use and Unmet Need Study, a national telephone survey of women veterans aged 18–44 years who had received primary care at the Veterans Administration in the prior 12 months. Participants rated the importance of various contraceptive characteristics and described their level of agreement with contraceptive beliefs using Likert scales. Contraceptive self-efficacy was assessed by asking participants to rate their certainty that they could use contraception consistently and as indicated over time using a Likert scale. Multivariable logistic regression was used to examine associations between race/ethnicity and contraceptive attitudes, controlling for age, marital status, education, income, religion, parity, deployment history, and history of medical and mental health conditions.

RESULTS—Among the 2302 women veterans who completed a survey, 52% were non-Hispanic white, 29% were non-Hispanic black, and 12% were Hispanic. In adjusted analyses, compared

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with whites, blacks had lower odds of considering contraceptive effectiveness extremely important (adjusted odds ratio; 0.55, 95% confidence interval, 0.40–0.74) and higher odds of considering the categories of does not contain any hormones and prevents sexually transmitted infections extremely important (adjusted odds ratio, 1.94, 95% confidence interval, 1.56–2.41, and adjusted odds ratio; 1.99, 95% confidence interval, 1.57–2.51, respectively). Hispanics also had higher odds than whites of considering the category of does not contain any hormones and prevents sexually transmitted infections extremely important (adjusted odds ratio, 1.72, 95% confidence interval, 1.29–2.28, and adjusted odds ratio, 1.63; 95% confidence interval, 1.21–2.19, respectively). Compared with whites, blacks and Hispanics had higher odds of expressing fatalistic beliefs about pregnancy (adjusted odds ratio, 1.79, 95% confidence interval, 1.35–2.39, and adjusted odds ratio, 1.48, 95% confidence interval, 1.01–2.17, respectively); higher odds of viewing contraception as primarily a woman's responsibility (adjusted odds ratio, 1.92, 95% confidence interval, 1.45–2.55, and adjusted odds ratio, 1.77; 95% confidence interval, 1.23–2.54, respectively); and lower odds of being very sure that they could use a contraceptive method as indicated over the course of a year (adjusted odds ratio, 0.73, 95% confidence interval, 0.54–0.98, and adjusted odds ratio, 0.66, 95% confidence interval, 0.46–0.96, respectively).

CONCLUSION—Women veterans' contraceptive preferences, beliefs, and self-efficacy varied by race/ethnicity, which may help explain observed racial/ethnic disparities in contraceptive use and unintended pregnancy. These differences underscore the need to elicit women's individual values and preferences when providing patient-centered contraceptive counseling.

Keywords

attitudes; beliefs; contraception; fatalism; health equity; preferences; racial disparities; self-efficacy; unintended pregnancy; veteran health; women veterans

Despite overall declines in the rates of unintended pregnancy in the United States, racial disparities persist, with the highest rates observed among low-income black and Hispanic women.¹ While the underlying explanation of this disparity is not well understood,² higher rates of contraceptive nonuse³ and greater reliance on less effective methods such as condoms are likely contributing factors.^{4–6}

According to estimates from the National Survey of Family Growth, 25% of black and 17% of Hispanic women at risk of unintended pregnancy are not using any contraception, compared with 14% of white women.³ Furthermore, among those women using contraception, blacks and Hispanics are 50% less likely than whites to use an effective prescription contraceptive method.⁶

Proposed explanations for racial/ethnic disparities in contraceptive use include differential access to contraception⁶ or knowledge about birth control methods.^{5,7} While a number of studies have found reduced knowledge among minority women,^{7–9} knowledge alone does not appear to account for differences in contraceptive use patterns by race/ethnicity.⁵

A growing body of literature points to differences in contraceptive preferences and beliefs as potentially instrumental in understanding the contraceptive behaviors that underlie disparities in unintended pregnancy risk.^{5,7,10} A recent study by Jackson et al¹⁰ examined

racial/ethnic variations in women's preferences for contraceptive attributes and found that women of minority race/ethnicity tended to prioritize attributes of less effective methods over those of more effective methods.

Other studies have found that, compared with whites, minority women have greater concerns about hormonal method safety and side effects^{7,9,11} and higher mistrust of family planning providers.^{12,13} Furthermore, preliminary data suggest that minority women more frequently report views that have been linked to inconsistent use of contraception or use of less effective methods, such as fatalistic beliefs about pregnancy (ie, "when it's my time, it will happen"),^{5,9} the belief that birth control is primarily a woman's responsibility,^{7,8} and lower contraceptive self-efficacy.^{8,9}

To date, few studies have utilized large national data sets to examine racial/ethnic differences in contraceptive preferences and beliefs, and no prior studies have examined these associations among women veterans. The national population of women veterans who utilize the Veterans Administration (VA) for health care is highly diverse, with nearly 46% of reproductive-aged women veterans of minority race/ethnicity (32% black, 10% Latina, and 4% from other minority groups).¹⁴ As the number women of veterans relying on the VA for health care continues to grow,¹⁴ delivery of high-quality, equitable reproductive health services, including contraception, is a high priority for the VA.¹⁵

Our objective was thus to investigate racial/ethnic variations in veterans' contraceptive preferences and beliefs both to contribute to the broader literature on reproductive health disparities and to inform efforts to improve contraceptive care at the VA.

Materials and Methods

Study design and population

We conducted an analysis of cross-sectional data from the Examining Contraceptive Use and Unmet Need study, a national telephone survey of women veterans across all regions and Veterans Integrated Service Networks in the United States to assess women's contraceptive use, pregnancy history, and experiences with VA reproductive health care.

A sample of women veterans between the ages of 18 and 44 years with at least 1 VA primary care visit in the past year was randomly selected using VA administrative data. Women in the sampling frame were mailed study packets that included an invitation letter, a study brochure, and a postage-paid reply card. Women were asked to express interest in or opt out of the study via a toll-free study telephone number or reply card. All women who did not opt out were subsequently called to ascertain interest in participating, undergo eligibility screening, and provide verbal informed consent.

Interviews were conducted from April 2014 through January 2016 by trained interviewers using computer-assisted telephone interview technology. Interviews lasted an average of 45 minutes, and participants received a \$30 honorarium. The study was approved by both the VA Pittsburgh and University of Pittsburgh Institutional Review Boards.

Of a total of 8198 invitations sent, 2769 women were screened and enrolled, and 2302 completed interviews (overall response rate was 28% and 83% completed surveys among those enrolled). Using VA administrative data, characteristics of participants were compared with non-participants from the sampling frame using standardized differences, calculated as the difference in means or proportions divided by a pooled estimate of the SD for each characteristic (0.10 considered negligible, 0.20 considered small).¹⁶ Participants were similar to nonparticipants with respect to age, race/ethnicity, marital status, income, presence of medical and mental illness, and geographic region, with standardized differences that were minimal (0.07–0.13, Supplemental Table). This suggests that the Examining Contraceptive Use and Unmet Need study sample is representative of the larger population of reproductive-aged female VA users.

Measures

The predictor of interest was race/ethnicity, categorized as non-Hispanic white, non-Hispanic black, Hispanic, and other (eg, Asian/Pacific Islanders, American Indian, and Alaska Natives). The outcomes of interest were preferences, beliefs, and self-efficacy regarding contraception, measured by responses to questions with Likert scale response options (Table 1). These questions were adapted from the National Longitudinal Study of Adolescent Health^{17–19} and have been used previously in adult as well as adolescent populations.^{7,11}

We included the following demographic and health variables obtained in interviews as potential confounders: age, marital status, education, household income, religion, parity, history of deployment, history of 1 or more medical conditions, and history of 1 or more mental health conditions. For medical conditions, women were asked whether they had ever been diagnosed with or received treatment for hypertension, thromboembolic disease, breast cancer, stroke, liver disease, HIV/AIDS, diabetes, migraines, lupus, or seizure disorders because these are conditions that represent relative or absolute contraindications to estrogen use²⁰ or that might otherwise affect contraceptive selection. For mental health conditions, women were asked whether they had ever been diagnosed with or received treatment for depression, bipolar disorder, posttraumatic stress disorder, schizophrenia, or anxiety or panic disorder.

Data analysis

Descriptive analyses of demographic and health characteristics by race/ethnicity were performed using Student *t* tests and χ^2 tests. Bivariate analyses using χ^2 tests were performed to assess associations between race/ethnicity and the outcome variables (preferences, beliefs, and self-efficacy). For the primary analysis, outcomes variables were dichotomized as follows: preferences as extremely important vs other responses; beliefs as strongly agree vs other responses; and self-efficacy as very sure vs other responses, similar to other published studies assessing contraceptive preferences.^{7,10}

We also conducted sensitivity analyses for outcomes that combined the top 2 response categories for each question: extremely important/quite important vs others; strongly agree/somewhat agree vs others; and very sure/sure vs others. Questions that lacked meaningful

variability once combined (>90% of responses were in the top 2 response categories) were excluded from the sensitivity analyses.

Multivariable analyses were performed for each outcome variable, adjusting for a set of potential confounding variables that was determined a priori. We included the other race category in the analyses; however, we do not discuss results from this group because of its heterogeneity. Adjusted odds ratios (ORs) and 95% confidence intervals (CIs) were reported. *P* value adjustments were not made for multiple outcome testing, given that the goal of the analysis was hypothesis generation, with priority placed on avoiding type 2 statistical error.²¹ Analyses were conducted using SAS, version 9.3 (SAS Institute, Cary, NC).

Results

Among the sample of 2302 women veterans who completed the interview, 52% were non-Hispanic white, 29% non-Hispanic black, 12% Hispanic, and 7% other. Sample demographic and health characteristics varied by race/ethnicity (Table 2). Blacks were older, more likely to be unmarried, more likely to be parous, and less likely to report no religion than whites, while Hispanics were younger, as likely to be married, as likely to be parous, and less likely to report no religion than whites. Blacks were more likely than whites to report a history of a medical condition, whereas both blacks and Hispanics were less likely than whites to report a history of mental health conditions. While blacks and Hispanics had lower household income compared with whites, there were no significant differences in education or deployment history.

Women veterans' contraceptive preferences, beliefs, and self-efficacy overall and by race/ethnicity are presented in Table 3. In the sample overall, method effectiveness was the contraceptive feature most frequently identified as extremely important (87%), followed by easy to use (79%) and effective in preventing sexually transmitted infections (STIs) (68%).

A slightly lower proportion of blacks and Hispanics compared with whites reported that method effectiveness was extremely important (blacks, 84%, Hispanics, 86%, whites, 90%, other, 86%; $P=.004$). A higher proportion of blacks and Hispanics than whites reported that each of the remaining 6 attributes was extremely important, with the greatest differences by race/ethnicity observed for the category of does not contain hormones (blacks, 45%, Hispanics, 41%, whites, 28%, other, 37%; $P<.001$) and effective in preventing STIs (blacks, 78%, Hispanics, 72%, whites, 61%, other, 69%; $P<.001$).

Only small percentages of the overall sample strongly agreed that it is too much of a hassle to use contraception (4%) or that using birth control is morally wrong (2%, Table 3). A higher proportion of blacks and Hispanics than whites strongly agreed that it does not matter whether you use birth control or not; when it is your time to get pregnant, it will happen (blacks, 20%, Hispanics, 17%, whites, 11%, other, 16%; $P<0.001$) and that it is mainly a woman's responsibility to make decisions about birth control (blacks, 20%, Hispanics, 19%, whites, 12%, other, 17%; $P<.001$).

While little variability was observed in whether women felt very sure that they could plan ahead to have some form of birth control consistently available over the next year, a slightly

lower proportion of blacks and Hispanics than whites felt very sure that they could use a method of contraception as indicated over the next year (blacks, 84%, Hispanics, 83%, whites, 88%, other, 81%; $P = .01$).

The multivariable models presented in Table 4 highlight the relative differences between racial/ethnic groups in preferences, beliefs, and self-efficacy, controlling for potential confounders. Compared with whites, blacks had a lower odds of considering contraceptive effectiveness extremely important (adjusted OR [aOR], 0.55, 95% CI, 0.40–0.74) and a higher odds of considering ease of use (aOR, 1.35, 95% CI, 1.04–1.75), acceptable to my partner (aOR, 1.28, 95% CI, 1.04–1.58), and does not interrupt sex (aOR, 1.46, 95% CI, 1.18–1.82) extremely important. Compared with whites, both blacks and Hispanics had a higher odds of considering that it does not contain any hormones extremely important (aOR, 1.94, 95% CI 1.56–2.41, and aOR, 1.72, 95% CI, 1.29–2.28, respectively).

Similarly, blacks and Hispanics had a higher odds of considering low cost (aOR, 1.33, 95% CI, 1.08–1.63, and aOR, 1.38, 95% CI, 1.05–1.82) and STI prevention (aOR, 1.99, 95% CI, 1.57–2.51, and aOR, 1.63, 95% CI, 1.21–2.19, respectively) extremely important. Compared with whites, both blacks and Hispanics had a higher odds of agreeing with the statement that women will get pregnant when it is their time, regardless of contraception (aOR, 1.79, 95% CI, 1.35–2.39, and aOR, 1.48, 95% CI, 1.01–2.17, respectively) and that birth control decisions are primarily a woman's responsibility (aOR, 1.92, 95% CI, 1.45–2.55, and aOR, 1.77, 95% CI, 1.23–2.54, respectively). Blacks and Hispanics had a lower odds of being very sure that they could use a method of contraception as indicated over the next year (aOR, 0.73, 95% CI, 0.54–0.98, and aOR, 0.66, 95% CI, 0.46–0.96, respectively).

In sensitivity analyses, we repeated our multivariable analyses with the top 2 response categories combined (data not shown). Four questions were excluded from the sensitivity analyses because of the lack of meaningful variability. Similar results to our primary analyses were observed for the remaining items, although statistical significance was attenuated.

Comment

In this national survey of more than 2000 women veterans, significant variations in women's contraceptive preferences, beliefs, and self-efficacy by race/ethnicity emerged. Women of minority race/ethnicity tended to prioritize features offered predominantly by less effective contraceptive methods, such as a lack of hormones and STI prevention, and were more likely to express fatalistic beliefs about pregnancy and the belief that birth control is primarily a woman's responsibility. These differences may help to explain observed national disparities in contraceptive use and unintended pregnancy.

Consistent with prior work by Jackson et al¹⁰ in a nonveteran population, we found that women veterans of minority race/ethnicity had contraceptive preferences that tended to align with less effective methods. In particular, we found that blacks were relatively less likely to prioritize contraceptive effectiveness and that both blacks and Hispanics were more likely to prioritize absence of hormones than whites.

Because effective methods generally contain hormones (with the exception of sterilization and the Copper T intra-uterine device),²² preference for no hormones matches more closely with less effective options such as barrier methods, natural family planning, or withdrawal. Jackson et al¹⁰ did not ask specifically about attitudes toward hormonal methods, but they found that women of minority race/ethnicity preferred methods that did not result in changes to the menstrual cycle and methods that can be obtained without seeing a physician, both features of nonhormonal methods.

Although we did not investigate underlying reasons for these preferences in our study, prior research has found that blacks and Hispanics have greater concerns about the side effects and safety of contraceptive methods, particularly those with hormones.^{8,9,23} These concerns may be based in part on misinformation; however, data indicate that the history of coercive reproductive health practices and medical experimentation on minorities in the United States also likely play a role in the desire to avoid hormones.²⁴ Because hormonal methods require a prescription or insertion and removal by a provider, mistrust of family-planning providers may be another factor underlying minority women's preferences for nonhormonal methods that can be obtained without providers.^{12,13}

Importantly, preferences among blacks and Hispanics did not align exclusively with the lower efficacy methods. Although minority women were more likely to prioritize STI prevention, a feature of barrier methods, blacks in our study were also more likely to report that it is extremely important that a method does not interrupt sex and is easy to use, characteristics that are conversely associated with higher efficacy hormonal methods rather than barrier methods.²⁵

Additional features that minority women were more likely to rate as extremely important, such as low cost and acceptable to their partner, are more difficult to interpret and may not consistently align with particular methods or groups of methods because of variations in women's health insurance and partner preferences.²⁵

Additional research is needed to evaluate the impact of these preferences on contraceptive decision making. Overall, the mixed set of preferences we identified suggests that currently available effective contraceptive methods do not always match well with women's preferences, as observed by Jackson et al¹⁰ and that this lack of alignment is most prominent among minority women. Health care providers thus have an important role in helping women weigh tradeoffs between methods and make informed decisions through patient-centered contraceptive counseling that is individualized and elicits women's values and preferences.

We identified differences by race/ethnicity in several contraceptive beliefs that have been linked to a higher risk of unintended pregnancy. First, black and Hispanic women were more likely to endorse the belief that pregnancy happens when it is your time, regardless of contraceptive use. This belief, often referred to as fatalism about pregnancy, has been identified among low-income and minority populations in other studies^{5,9,26} and has been associated with use of less effective methods and inconsistent contraceptive use.^{4,27}

More recent studies have not consistently found this association, however, and have challenged the traditional view that fatalism indicates lack of agency over behaviors.^{5,26} Jones et al²⁶ found that fatalism often coexists with agency and may be more accurately conceptualized as a realistic view that reproduction is not entirely in a woman's control (ie, sometimes women who desire pregnancy cannot conceive and sometimes women experience contraceptive failure). Further research is needed to understand the association between fatalistic views, contraceptive use, and unintended pregnancy across racial/ethnic groups.

Consistent with data from nonveteran populations,^{7,8} we also found that Hispanics and blacks were more likely than whites to view contraception as primarily a woman's responsibility. Black and Hispanic women were also relatively less likely to be sure that they could use a method of contraception as indicated over the next year, although rates of contraceptive self-efficacy in our sample were high across all racial/ethnic groups.

Because the lack of partner involvement in contraceptive decision making and low contraceptive self-efficacy are linked to inconsistent contraceptive use and use of less effective methods,^{18,28,29} our findings underscore the need to understand the underlying reasons that minority women are more likely to hold these views. Small studies have suggested potential explanatory factors include women's perceptions that their male partners have a lack of concern about preventing pregnancy,⁸ negative attitudes toward condoms among men,⁸ experiences with reproductive coercion and birth control sabotage,^{25,30,31} and fatalistic attitudes toward life in general (eg, "In life, things just seem to happen to me").⁵ Further investigation in additional populations, including women veterans, is needed.

Care must be taken in drawing clinical or practice implications from our findings. First, summary findings such as ours should not lead contraceptive care providers within or outside the VA to make assumptions about a woman's individual preferences and needs based on her race/ethnicity. Rather, these data can help raise awareness about the diversity of women's preferences and encourage providers to consider the historical, cultural, and social context underlying such beliefs as fatalism, partner involvement in contraceptive decision making, and concerns about hormonal methods.

We would also caution that our findings should not lead to the conclusion that counseling should focus exclusively on moving women who express preferences for lower effectiveness methods toward adopting higher-efficacy methods. Rather, providers can help ensure that women have accurate information using counseling that acknowledges that different women will weigh contraceptive attributes differently and that effectiveness is only one of multiple features of potential importance. Indeed, a growing body of literature indicates that unintended pregnancy itself is not a uniformly poor outcome and may be an acceptable or even welcome event for some women.^{32,33} Varying attitudes toward an unexpected or unplanned pregnancy and/or toward abortion may thus influence how much significance women place on method effectiveness in comparison with other method characteristics.

Several limitations of our study are important to consider. First, our response rate of 28% raises the question of whether our results are subject to selection bias. Comparison of non-participants with participants, however, indicated minimal differences in demographics or

health characteristics. An additional limitation to consider is the lack of published validated scales for measuring women's contraceptive preferences, beliefs, or self-efficacy. Furthermore, we asked only a limited number of questions and thus may have omitted the assessment of additional factors that could be influential in contraceptive decision making. Lastly, it is important to remember that our results may not be generalizable to nonveteran populations because women veterans differ from the general population in their experiences of military service, their education levels (all military personnel are required to have a high school diploma or general education degree), and their higher prevalence of mental health and medical comorbidities.^{34–36}

Our findings regarding variations in contraceptive preferences, beliefs, and self-efficacy among women veterans by race/ethnicity contribute to understanding observed disparities in contraceptive use patterns nationally and can provide insight for efforts to improve reproductive health care and health equity. In combination with growing evidence supporting the importance of patient-centered care in improving contraceptive outcomes,³⁷ our findings suggest that individualized counseling that recognizes the diversity of women's preferences and beliefs may be the most effective strategy to empower women across all racial/ethnic groups to make informed decisions about contraception and achieve the reproductive outcomes they desire.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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TABLE 1

Survey questions and response options used to assess contraceptive preferences, beliefs, and self-efficacy

Survey questions	Response options
Contraceptive preferences (perceived importance of the following characteristics)	Not at all important Slightly important Quite important Extremely important
It is very effective in preventing pregnancy	
It has a low cost	
It is easy to use	
It doesn't contain any hormones	
It is acceptable to my partner	
It doesn't interrupt sex	
It is effective at preventing sexually transmitted infections such as HIV	
Contraceptive beliefs (agreement with the following statements)	Strongly disagree Somewhat disagree Neither agree nor disagree Somewhat agree Strongly agree
It is too much of a hassle to use contraception Using birth control is morally wrong It doesn't matter whether you use birth control or not; when it is your time to get pregnant, it will happen It is mainly a woman's responsibility to make decisions about birth control	
Contraceptive self-efficacy (response to the following questions)	Very unsure Somewhat unsure Neither unsure or sure Sure Very sure
How sure are you that you could plan ahead to have some form of birth control consistently available over the next year if you were sexually active with a man and wanted to avoid pregnancy? How sure are you that you could use a method of contraception as indicated over the course of the next year if you were sexually active with a man and wanted to avoid pregnancy?	

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TABLE 2

Characteristics of women veterans by race/ethnicity

Characteristics	Race/ethnicity			
	Total (n = 2302), 100%	Non-Hispanic white (n = 1188), 51.6%	Non-Hispanic black (n = 665), 28.9%	Hispanic (n = 285), 12.4% Other (n = 164), 7.1%
Age, mean (SD) ^a	34.7 (5.6)	34.4 (5.7)	35.6 (5.5)	33.8 (5.6) 34.5 (5.4)
Marital status ^a				
Single	23.3	18.7	30.4	27.0 20.9
Married/living with partner	50.0	56.4	37.5	51.9 51.5
Divorced/separated/widowed	26.7	24.9	32.1	21.1 27.6
Education				
High school/technical school	8.6	8.9	7.7	10.2 7.3
Some college	38.3	39.5	36.8	35.4 40.9
College degree or higher	53.1	51.6	55.5	54.4 51.8
Income ^b				
<\$20,000	20.3	20.5	19.4	19.0 24.2
\$20,000 to <\$40,000	31.9	30.3	32.5	35.2 36.0
\$40,000 to <\$60,000	22.1	20.0	25.9	23.6 19.3
\$60,000+	25.6	29.1	22.2	22.2 20.5
Religion ^d				
No religion	17.1	22.7	8.4	13.7 17.7
Catholic	11.8	11.6	3.3	30.2 15.2
Other Christian	57.3	52.6	73	45.3 49.4
Other	13.8	13.2	15.2	10.9 17.7
Parity 1 ^c	63.5	60.0	69.5	63.2 64.6
Ever been deployed	55.4	54.0	57.1	59.3 51.2
Mental health condition ^c	68.7	72.5	64.4	66.0 64.0
Medical condition ^c	56.2	54.2	61.7	52.3 54.9

Missing data (unknown/refused to answer): all outcomes had <6 women missing with the exception of income (25 missing).

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^a $P < .001$;

^b $P < .05$;

^c $P < .01$.

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TABLE 3
 Variations in responses to questions about contraceptive preferences and attitudes by race/ethnicity

Variables	Race/ethnicity				
	Total (n = 2302), 100%	Non-Hispanic white (n = 1188), 51.6%	Non-Hispanic black (n = 665), 28.9%	Hispanic (n = 285), 12.4%	Other (n = 164), 7.1%
Preferences (extremely important)					
Method effectiveness ^a	87.2	89.6	84.1	86.2	84.1
Low cost ^b	53.9	50.5	58.5	57.5	53.7
Easy to use	79.1	77.5	82.0	80.7	76.8
Does not contain hormones ^c	35.0	27.7	45.1	40.6	37.3
Acceptable to my partner	41.7	40.3	44.6	42.6	39.3
Does not interrupt sex ^d	64.3	61.7	69.4	66.0	59.5
Effective in preventing STIs ^c	68.0	61.0	78.4	71.9	69.3
Beliefs (strongly agree)					
It is too much of a hassle to use contraception	3.8	3.0	3.8	5.3	6.7
Using birth control is morally wrong	1.7	1.8	1.2	2.8	1.8
It does not matter whether you use birth control or not; when it is your time to get pregnant, it will happen ^c	14.5	10.9	19.9	16.5	16.0
It is mainly a woman's responsibility to make decisions about birth control ^c	15.2	11.5	20.0	18.7	16.5
Self-efficacy (very sure)					
How sure are you that you can plan ahead to have some form of birth control consistently available over the next year	83.4	84.0	83.3	81.7	82.7
How sure are you that you can use a method of contraception as indicated over the course of the next year ^b	85.9	88.1	84.4	83.2	80.7

Missing data (unknown/refused to answer): all outcomes had <10 women missing with the exception of low cost (14 missing) and does not contain hormones (47 missing). STI, sexually transmitted infection.

^a $P < .01$;

^b $P < .05$;

^c $P < .001$.

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TABLE 4

Multivariable models examining the association of race/ethnicity with question responses regarding contraceptive preferences and attitudes

	Race/ethnicity			
	Non-Hispanic white	Non-Hispanic black	Hispanic	Other
Adjusted odds ratios (95% confidence intervals) ^{a,b}				
Preferences (extremely important)				
Method effectiveness ^c	1.0	0.55 (0.40–0.74)	0.82 (0.55–1.24)	0.65 (0.4–1.05)
Low cost ^d	1.0	1.3 (1.08–1.63)	1.38 (1.05–1.82)	1.11 (0.79–1.55)
Easy to use	1.0	1.35 (1.04–1.75)	1.22 (0.87–1.71)	0.98 (0.66–1.46)
Does not contain hormones ^e	1.0	1.94 (1.56–2.41)	1.72 (1.29–2.28)	1.49 (1.05–2.13)
Acceptable to my partner	1.0	1.28 (1.04–1.58)	1.11 (0.84–1.46)	1.01 (0.71–1.42)
Does not interrupt sex ^c	1.0	1.46 (1.18–1.82)	1.28 (0.97–1.70)	0.91 (0.64–1.28)
Effective in preventing STIs ^e	1.0	1.99 (1.57–2.51)	1.63 (1.21–2.19)	1.39 (0.97–2.01)
Beliefs (strongly agree)				
It is too much of a hassle to use contraception	1.0	1.13 (0.65–1.97)	1.54 (0.80–2.95)	2.18 (1.06–4.44)
Using birth control is morally wrong	1.0	0.77 (0.32–1.84)	1.52 (0.64–3.64)	1.10 (0.32–3.81)
It does not matter whether you use birth control or not; when it is your time to get pregnant, it will happen ^e	1.0	1.79 (1.35–2.39)	1.48 (1.01–2.17)	1.43 (0.89–2.28)
It is mainly a woman's responsibility to make decisions about birth control ^e	1.0	1.92 (1.45–2.55)	1.77 (1.23–2.54)	1.44 (0.91–2.28)
Perceived self-efficacy (very sure)				
How sure are you that you can plan ahead to have some form of birth control consistently available over the next year	1.0	1.01 (0.77–1.34)	0.85 (0.6–1.21)	0.9 (0.58–1.41)
How sure are you that you can use a method of contraception as indicated over the course of the next year ^c	1.0	0.73 (0.54–0.98)	0.66 (0.46–0.96)	0.52 (0.34–0.81)

STI, sexually transmitted infection.

^aEach row represents an individual logistic regression model that is adjusted for age, marital status, income, education, parity, deployment history, medical condition, and mental health condition;

^bSample size for each model depended on missing values and ranged from 2257 (98%) to 2270 (99%);

^c $P < .01$;

^d $P < .05$;

^e $P < .001$.

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