JOURNAL OF WOMEN'S HEALTH
Volume 18, Number 1, 2009

DOI: 10.1089/jwh.2008.0976

The Impact of Race and Ethnicity on Receipt of Family Planning Services in the United States

Sonya Borrero, M.D., M.S.,[1,2] Eleanor B. Schwarz, M.D., M.S.,[1,3] Mitchell Creinin, M.D.,[3,4] and Said Ibrahim, M.D., M.P.H.[1,2]

Abstract

Objective: This study sought to examine the independent effect of patient race or ethnicity on the use of family planning services and on the likelihood of receiving counseling for sterilization and other birth control methods.

Methods: This study used national, cross-sectional data collected by the 2002 National Survey of Family Growth (NSFG). Our analysis included women aged 18–44 years who had heterosexual intercourse within the past 12 months, who were not actively seeking to get pregnant, and who had not undergone surgical sterilization. The primary outcome was receipt of family planning services within the past 12 months. Specific services we examined were (1) provision of or prescription for a method of birth control, (2) checkup related to using birth control, (3) counseling about sterilization, and (4) counseling about birth control.

Results: Although we found no racial/ethnic differences in the overall use of family planning services, there were racial/ethnic differences in the specific type of service received. Hispanic and black women were more likely than white women to receive counseling for birth control (adjusted OR 1.5, 95% confidence interval [CI] 1.2, 1.8, and adjusted OR 1.3, 95% CI 1.1, 1.7, respectively). Hispanic women were more likely than white women to report having been counseled about sterilization (adjusted OR 1.5, 95% CI 1.0, 2.3).

Conclusions: Minority women were more likely to receive counseling about sterilization and other birth control methods. However, there were no differences in access to family planning services by race or ethnicity. Future studies are needed to examine the quality and content of contraceptive counseling received by minority compared with nonminority women.

Introduction

THERE IS SIGNIFICANT RACIAL AND ETHNIC VARIATION in the use of medical services and procedures in the United States.[1] Minorities are less likely than nonminorities to receive needed or beneficial services[1] and are more likely to receive undesirable procedures.[2–4] Although an extensive body of literature exists documenting racial disparities in the use of medical and surgical services and procedures,[5–14] less is known about racial and ethnic differences in the use of reproductive health services.

National health indices have demonstrated that minority women have poorer reproductive health outcomes, such as higher maternal and infant mortality and higher rates of unintended pregnancy, compared with white women,[15–17] but there is relatively little information about process-based measures that may, in part, explain these worse outcomes. This paper specifically focuses on examining the receipt of family planning services by race and ethnicity in the United States. Minority women experience higher rates of unintended pregnancy[16] and subscribe to different patterns of contraceptive use than non-Hispanic white women. We are particularly interested in the fact that tubal sterilization is the most commonly used contraceptive method for black and Hispanic women, whereas the oral contraceptive pill is the most commonly used method for white women.[18,19] It remains unclear if these differences are related to receipt of family planning services and, furthermore, the type of

[1]Divison of General Internal Medicine, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania.
[2]Center for Health Equity Research and Promotion, VA Pittsburgh Healthcare System, Pittsburgh, Pennsylvania.
[3]Department of Obstetrics, Gynecology and Reproductive Sciences, University of Pittsburgh School of Medicine and Magee Womens Research Institute, Pittsburgh, Pennsylvania.
[4]Department of Epidemiology, University of Pittsburgh Graduate School of Public Health, Pittsburgh, Pennsylvania.

services or counseling received by those who do access them.

We used the 2002 National Survey of Family Growth (NSFG) to examine the independent effect of patient race or ethnicity on overall use of family planning services and on the likelihood of receiving counseling for sterilization and other birth control methods. In addition, we attempted to measure overall use of the healthcare system by using receipt of Pap smear as a proxy measure of access.

Materials and Methods

Data source

This study used data collected by Cycle 6 (2002) of the NSFG, a national cross-sectional survey.[20] The NSFG is a periodic study conducted by the National Center for Health Statistics (NCHS), an agency of the Department of Health and Human Services, to provide national estimates of factors affecting pregnancy and birth outcomes, including sexual activity, contraceptive use, marital status, infertility, and use of medical services for family planning. For the 2002 NSFG, interviews were conducted between March 2002 and March 2003. Interviews were conducted in person by a trained female interviewer in the selected person's home. The overall response rate was approximately 80%. The University of Pittsburgh Institutional Review Board approved this analysis of the NSFG data.

Study population

The NSFG is based on a national multistage probability sample designed to represent women and men 15–44 years of age in the household population of all 50 states and the District of Columbia. The 2002 NSFG sample included 7643 women and 4928 men. Teenage, black, and Hispanic participants were oversampled. Because we were interested in determining the use of family planning services in the past 12 months by women most in need of them, we restricted our sample to women who had heterosexual intercourse within the past 12 months. In addition, we excluded women who reported a history of a sterilization operation as well as women who reported that they were trying to get pregnant. In order to interpret our findings in the context of differential access to the healthcare system, we examined whether women obtained a Pap smear as a surrogate marker of access. At the time of the 2002 NSFG, annual Pap smear testing was recommended for all women aged 18–70.[21] We, therefore, further limited our sample to women aged ≥18 to have an appropriate comparison group. This yielded a study sample of 4639 women aged 18–44.

We performed two additional analyses in which we included women aged 15–17 and women who had undergone sterilization within the past 12 months in order to capture those women who potentially had received a family planning service prior to their sterilization procedure.

Study outcome and independent variables

The primary outcome was receipt of family planning services within the past 12 months. Specific services recorded by the NSFG that we included under this criterion were (1) provision of or prescription for a method of birth control, (2) checkup related to using birth control, (3) counseling or information about sterilization, and (4) counseling or information about birth control.

The primary predictor of interest in our analysis was self-reported race or ethnicity. NSFG race categories included Hispanic, non-Hispanic white, non-Hispanic black, and non-Hispanic other (Asian, Pacific Islander, Alaskan native, and Native American). Because the "other" race category was heterogeneous, we excluded the women in this category from our analyses. Age, insurance status, income, education level, parity, marital status, and a prior history of abortion were examined as potential confounders in the relationship between race/ethnicity and receiving family planning services. The same covariates listed, except for history of abortion, were also examined as potential confounders for obtaining a Pap smear.

Statistical analysis

We described sociodemographic characteristics of women by race/ethnicity using chi-square tests for all categorical variables. We then examined the bivariate association between race/ethnicity and each of the outcomes and calculated unadjusted odds ratios (OR) for each pair. A multivariable logistic regression model was used to determine the adjusted ORs of receiving each of the specified services. Covariates that showed a significant association ($p < 0.10$) with any of the four specified family planning services in bivariate analysis were forced into the final multivariable regression models. Likewise, covariates that showed a significant association with receiving Pap smear were included in the final adjusted model examining this medical service.

Statistics were produced using Stata software, version 9.0 (StataCorp, College Station, TX), using appropriate adjustment for the NSFG's complex sample design. All estimates were weighted to reflect the national female household population aged 18–44 years.

Results

Table 1 depicts the sociodemographic characteristics at the time of interview of the women included in the study sample. The racial/ethnic makeup of our study sample was approximately 72% non-Hispanic white, 15% Hispanic, and 13% non-Hispanic black.

Overall, 74% of women reported having had a Pap smear in the past 12 months, and 52% of women reported having received a family planning service ($p < 0.001$, data not shown). Table 2 shows the percentage of women who had received the specified family planning or medical service within the past 12 months as well as results from the unadjusted analysis. Use of family planning services overall was equivalent across the racial/ethnic groups, as 54% of white women, 52% of Hispanic women, and 53% of black women ($p = 0.42$) had at least one of the specified family planning services. Although there were no racial or ethnic differences in the overall use of family planning services, we found significant racial/ethnic differences in the specific type of service received. Hispanic and black women were more likely to have received birth control counseling compared with white women (OR 1.6, 95% confidence interval [CI] 1.3, 1.9, and OR 1.4, 95% CI 1.1, 1.8, respectively). Compared with white women, Hispanic women were more likely to have received sterilization counseling (OR 2.0, 95% CI 1.4, 2.8) and less likely to have received a method

Table 1. Sociodemographic Characteristics of Women in Study Sample ($n = 4639$)[a,b]

Variable	*White (%)*	*Hispanic (%)*	*Black (%)*
Total sample	71.9	15.1	13.0
Insurance status			
Private	78.5	44.8	57.9
None	11.5	30.5	15.3
Public[c]	10.0	24.7	26.8
Age			
18–29	52.3	63.4	63.2
30–44	47.7	36.6	36.8
Poverty level[d]			
<100%	11.0	36.1	28.3
100%–500%	72.0	58.3	63.5
>500%	17.0	5.5	82.0
Education			
High school diploma or less	34.6	64.2	50.2
At least some college	65.4	35.8	49.8
Parity			
0 children	45.4	32.8	39.1
1 or 2 children	41.5	49.1	44.8
3 or more children	13.0	18.1	16.0
Marital status			
Married/cohabiting with male partner	63.7	63.1	37.1
Single/divorced/separated/widowed	36.3	36.9	62.9

[a]Weighted to reflect the U.S. female civilian noninstitutional population aged 18–44.
[b]*p* values for all comparisons (using chi-square tests) were < 0.001.
[c]Public insurance included Medicaid, Medicare, Medi-Gap, Indian health service, CHIP, state-sponsored, or other government program.
[d]Poverty threshold based on 2001 level defined by the U.S. Census Bureau, which takes into account total household income and number (i.e., $18,104 for a family of 4).

of birth control or a prescription for a method of birth control (OR 0.7, 95% CI 0.6, 0.9).

Table 3 summarizes the results from adjusted, multivariable models. Although there were no racial or ethnic differences in the overall use of family planning services, Hispanic and black women were more likely to receive counseling for birth control compared with white women (adjusted OR 1.5, 95% CI 1.2, 1.8, and adjusted OR 1.3, 95% CI 1.1, 1.7, respectively). Neither group was more likely to have actually received a method or prescription for a birth control method compared with white women in the adjusted analysis, however. In fact, Hispanic women were significantly less likely to have received a method or prescription for a birth control method (adjusted OR 0.8, 95% CI 0.7, 1.0). Black and white women were equally likely to report having had sterilization counseling, and Hispanic women were more likely to report having been counseled about sterilization compared with white women (adjusted OR 1.5, 95% CI 1.0, 2.3).

Results from the secondary analysis in which we included women aged 15–17 were similar to results from the main analysis as were the results from the analysis in which we included women who had a sterilization procedure within the past 12 months (data not shown).

Table 2. Percent of Women and Unadjusted Odds Ratios with 95% Confidence Intervals of Receiving Specified Family Planning Service and Pap Smear

	White		*Hispanic*			*Black*		
Service	*%*	*OR*[a]	*%*	*OR (95% CI)*	p *value*	*%*	*OR (95% CI)*	p *value*
Family planning service								
Birth control method	47.5	Referent	40.0	0.7 (0.6, 0.9)	<0.01	43.6	0.8 (0.7, 1.0)	0.12
Birth control checkup	33.2	Referent	29.3	0.8 (0.7, 1.0)	0.05	30.1	0.9 (0.7, 1.1)	0.18
Birth control counseling	21.8	Referent	30.8	1.6 (1.3, 1.9)	<0.01	28.7	1.4 (1.2, 1.8)	<0.01
Sterilization counseling	4.0	Referent	7.8	2.0 (1.4, 2.8)	<0.01	4.8	1.2 (0.8, 1.8)	0.41
At least one family planning service	54.5	Referent	51.8	0.9 (0.7, 1.1)	0.25	53.0	0.9 (0.8, 1.1)	0.51
Pap smear	73.7	Referent	63.2	0.6 (0.5, 0.7)	<0.01	75.3	1.1 (0.8, 1.4)	0.47

[a]OR, odds ratio; CI, confidence interval.

Table 3. Adjusted Odds Ratios and 95% Confidence Intervals of Receiving Specified Family Planning Service and Pap Smear

		Hispanic		*Black*	
Service	*White*	*OR (95% CI)*[a]	p *value*	*OR (95% CI)*	p *value*
Family planning service[b]					
Birth control method	Referent	0.8 (0.7, 1.0)	0.01	0.9 (0.7, 1.1)	0.31
Birth control checkup	Referent	0.9 (0.7, 1.0)	0.13	09 (0.7, 1.1)	0.20
Birth control counseling	Referent	1.5 (1.2, 1.8)	<0.01	1.3 (1.1, 1.7)	0.01
Sterilization counseling	Referent	1.5 (1.0, 2.3)	0.04	1.1 (0.6, 1.8)	0.72
At least one family planning service	Referent	0.9 (0.7, 1.1)	0.31	0.9 (0.8, 1.2)	0.65
Pap smear[b]	Referent	0.7 (0.6, 0.9)	<0.01	1.4 (1.1, 1.9)	<0.01

[a]OR, odds ratio; CI, confidence interval.
[b]Adjusted for age, insurance status, poverty, education level, parity, and marital status. As prior abortion was not significantly associated with receipt of any of the family planning services, it was not included in these models.

Discussion

In this sample of 4639 sexually active women aged 18–44, we found no racial/ethnic differences in the overall use of family planning services. However, there were differences in the types of services women received. Specifically, Hispanic women were more likely to receive counseling about tubal sterilization, and both Hispanic and black women were more likely than white women to report receipt of counseling for a birth control method in general.

Our results are somewhat reassuring in that they suggest that Hispanic, white, and black women have equal access to family planning services. This could be related to Title X programs and Medicaid expansions implemented to improve access to family planning services for socioeconomically disadvantaged women.[22,23] On the other hand, whereas approximately 74% of women had Pap smears, only about 52% received family planning services. Although it is promising that such a large percentage received Pap smears, the annual incidence of cervical intraepithelial neoplasia (CIN) or cancer is <1% in the United States,[24] whereas the rate of unintended pregnancy is over 5-fold that, at 5%.[16] Moreover, of the women in our sample who had a Pap smear, 45% reported that their physician did not speak to them about birth control. This estimate exposes a tremendous missed opportunity to discuss family planning while women are receiving other reproductive health services. Until we improve provision of contraceptive services, unplanned pregnancy, which accounts for nearly 50% of all pregnancies in the United States,[16] will continue to be a major problem.

In a previous analysis using the NSFG database, we found that black women undergo tubal sterilization significantly more often than white women even after adjusting for socioeconomic characteristics.[18] Hispanic women also showed higher rates of tubal sterilization, but this trend did not reach statistical significance.[18] In this analysis, we were able to examine if minority women more often received sterilization counseling by a healthcare provider. Altough our findings did indicate an ethnic difference in the rate of sterilization counseling, this difference does not necessarily translate into higher rates of sterilization; that is, Hispanic women report getting counseled about sterilization more often but do not actually get sterilized significantly more often than white women.[18] Conversely, black women report similar rates of sterilization counseling as white women but do get sterilized significantly more often.[18] This could indicate that the decision to undergo tubal sterilization is driven more by patient preference or by system-level factors than by whether or not the healthcare provider provides counseling. One must be cautious in drawing this conclusion, however, because we could only assess frequency of provider counseling not content or quality of the information provided. That is, although black and white women receive sterilization counseling with equal frequency, healthcare providers may simply be providing information to white women but making specific recommendations for sterilization to black women.

In addition to Hispanic women reporting a higher incidence of receiving sterilization counseling, both black and Hispanic women received counseling about birth control more often than did white women. The fact that minority women did not actually obtain more birth control or prescriptions for birth control, however, suggests that the increased frequency of contraceptive counseling reported by minority women was likely not patient initiated. The merits of more reproductive counseling for minority women, therefore, need further understanding. Given the history of efforts to control the fertility of poor and minority women in this country,[25–28] more counseling may not necessarily mean better care. This difference might reflect provider bias, a factor that has been implicated by the Institute of Medicine to have a role in racial and ethnic disparities in healthcare.[1] The American College of Obstetricians and Gynecologists (ACOG) also recognizes the pervasive role that bias can play in contraceptive counseling and cautions healthcare providers about making recommendations or giving advice regarding contraception that goes beyond health-related issues because it might be difficult to address nonmedical issues (e.g., socioeconomic concerns) without bias.[29] In practice, however, parity and socioeconomic concerns often do factor into patient-provider communication about contraception and family planning. For this reason, we adjusted for these factors when examining for racial/ethnic differences in receiving birth control counseling and found that racial/ethnic differences in receipt of sterilization and birth control counseling persisted.

A recent study by Thorburn and Bogart[30] examined the frequency of perceived race-based discrimination experienced by black women when obtaining family planning services. Of the 326 women surveyed, 67% reported race-based discrimination, and 52% reported experiences that reflect stereotypes of black women (e.g., provider made assumptions about parity and welfare status). Furthermore, these patients' experiences with discrimination were unrelated to most of the sociodemographic factors examined, including education, employment, parity, and sexual activity, suggesting that patients' race/ethnicity overrides other patient-level factors. The authors comment that this is not surprising, as people are more likely to apply stereotypes unconsciously and automatically and less likely to pay attention to individualizing information, especially under conditions of busyness and time pressure that healthcare providers face.[30]

Some important limitations must be considered in interpreting our results. First, not all the women included in the sample may have been in need of family planning services. We would argue that all women of reproductive age are at risk for unintended pregnancy and, therefore, in need of family planning services unless she or her partner has been surgically sterilized, she is heterosexually abstinent, or she is actively seeking to get pregnant. Although we excluded women who had been sterilized, who had not had heterosexual intercourse within the past 12 months, and who were trying to get pregnant, we did not exclude women who reported current use of other forms of highly effective contraception. However, in the total NSFG sample, $<5\%$ of women (337 women) reported that their current primary method of contraception was male sterilization, and only about 1.5% of women (119 women) were using either an implant or intrauterine device. A second limitation is that women's reports of having received specific services might not be accurate, especially with regard to more subjective experiences, such as receiving counseling. For example, more women reported that they had had a Pap smear than reported having a pelvic examination, which is impossible. Lastly, we did not adjust for type of setting in which women received the family planning service. It is possible that some women seek care in settings that provide high-quality, comprehensive contraceptive services, and, thus, observed differences in contraceptive counseling may reflect differences in the sources of care.

In summary, in this nationally representative sample of women of reproductive age, we report significant racial/ethnic differences in the receipt of birth control and sterilization counseling by a healthcare provider. However, there were no significant differences in use of family planning services by race or ethnicity. Future studies are needed to examine the quality and content of contraceptive counseling received by minority compared with nonminority women.

Acknowledgments

This publication was made possible by a grant to S.B. (1 KL2 RR02415402) from the National Center for Research Resources (NCRR), a component of the National Institutes of Health (NIH), and NIH Roadmap for Medical Research. The sponsors had no role in the design and conduct of the study, in the collection, analysis, and interpretation of the data, or in the preparation, review, or approval of the manuscript. The content of this publication is solely the responsibility of the authors and does not necessarily represent the official view of NCRR or NIH.

Disclosure Statement

No competing financial interests exist for Drs. Borrero, Schwarz, and Ibrahim. Dr. Creinin is a consultant for Schering-Plough and has received research grants from Schering-Plough and Bayer.

References

1. Smedley BD, Stith AY, Nelson AR, eds. Unequal treatment: Confronting racial and ethnic disparities in health care. Washington, DC: National Academies Press, 2003.
2. Correa-de-Araujo R, McDermott K, Moy E. Gender differences across racial and ethnic groups in the quality of care for diabetes. Womens Health Issues 2006;16:56–65.
3. Feinglass J, Rucker-Whitaker C, Lindquist L, McCarthy WJ, Pearce WH. Racial differences in primary and repeat lower extremity amputation: Results from a multihospital study. J Vasc Surg 2005;41:823–829.
4. Powell LH, Meyer P, Weiss G, et al. Ethnic differences in past hysterectomy for benign conditions. Womens Health Issues 2005;15:179–186.
5. Ayanian JZ, Udvarhelyi IS, Gatsonis CA, Pashos CL, Epstein AM. Racial differences in the use of revascularization procedures after coronary angiography. JAMA 1993;269: 2642–2646.
6. Bach PB, Cramer LD, Warren JL, Begg CB. Racial differences in the treatment of early-stage lung cancer. N Engl J Med 1999;341:1198–1205.
7. Barker-Cummings C, McClellan W, Soucie JM, Krisher J. Ethnic differences in the use of peritoneal dialysis as initial treatment for end-stage renal disease. JAMA 1995;274: 1858–1862.
8. Canto JG, Allison JJ, Kiefe CI, et al. Relation of race and sex to the use of reperfusion therapy in Medicare beneficiaries with acute myocardial infarction. N Engl J Med 2000;342: 1094–1100.
9. Chin MH, Zhang JX, Merrell K. Diabetes in the African-American Medicare population. Morbidity, quality of care, and resource utilization. Diabetes Care 1998;21:1090–1095.
10. Epstein AM, Ayanian JZ, Keogh JH, et al. Racial disparities in access to renal transplantation—Clinically appropriate or due to underuse or overuse? N Engl J Med 2000;343:1537–1544.
11. Gornick ME, Eggers PW, Reilly TW, et al. Effects of race and income on mortality and use of services among Medicare beneficiaries. N Engl J Med 1996;335:791–799.
12. Hannan EL, van Ryn M, Burke J, et al. Access to coronary artery bypass surgery by race/ethnicity and gender among patients who are appropriate for surgery. Med Care 1999; 37:68–77.
13. Mayberry RM, Mili F, Ofili E. Racial and ethnic differences in access to medical care. Med Care Res Rev 2000;57(Suppl 1):108–145.
14. Jones A, Kwoh CK, Kelley ME, Ibrahim SA. Racial disparity in knee arthroplasty utilization in the Veterans Health Administration. Arthritis Rheum 2005;53:979–981.
15. Anachebe NF. Racial and ethnic disparities in infant and maternal mortality. Ethn Dis 2006;16(S3):71–76
16. Finer LB, Henshaw SK. Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. Perspect Sex Reprod Health 2006;38:90–96.

17. Health, United States, 2004. Hyattsville, MD, National Center for Health Statistics.
18. Borrero S, Schwarz EB, Reeves MF, Bost JE, Creinin MD, Ibrahim SA. Race, insurance status, and tubal sterilization. Obstet Gynecol 2007;109:94–100.
19. Mosher WD, Martinez MG, Chandra A, Abma JC, Wilson SJ. Use of contraception and use of family planning services in the Unites States: 1982–2002. Hyattsville, MD: National Center for Health Statistics, 2004.
20. National Survey of Family Growth, Cycle 6. Available at *www.cdc.gov/nchs/nsfg.htm* Accessed January 30, 2006.
21. ACOG committee opinion. Routine cancer screening. Number 185, September 1997 (replaces No. 128, October 1993). Committee on Gynecologic Practice. American College of Obstetricians and Gynecologists. Int J Gynaecol Obstet 1997; 59:157–161.
22. Frost JJ. Public or private providers? U.S. women's use of reproductive health services. Fam Plann Perspect 2001;33:4–12.
23. Kaeser L. Title X and the U.S. family planning effort. New York: Alan Guttmacher Institute, 1997.
24. Insinga RP, Glass AG, Rush BB. Diagnoses and outcomes in cervical cancer screening: A population-based study. Am J Obstet Gynecol 2004;191:105–113.
25. Eliot J. Fertility control and coercion. Fam Plann Perspect 1973;5:132–187.
26. Shapiro TM, Fisher W, Diana A. Family planning and female sterilization in the United States. Soc Sci Med 1983; 17:1847–1855.
27. Stern AM. Sterilized in the name of public health: Race, immigration, and reproductive control in modern California. Am J Public Health 2005;95:1128–1138.
28. Roberts D. The pill at 40—A new look at a familiar method. Black women and the pill. Fam Plann Perspect 2000;32: 92–93.
29. ACOG Committee Opinion Number 371, July 2007. Sterilization of women, including those with mental disabilities. Obstet Gynecol 2007;110:217–220.
30. Thorburn S, Bogart LM. African American women and family planning services: Perceptions of discrimination. Women Health 2005;42:23–39.

Address reprint requests to:
Sonya Borrero, M.D.
Assistant Professor of Medicine
University of Pittsburgh
230 McKee Place, Suite 600
Pittsburgh PA 15213

E-mail: borrerosp@upmc.edu