Understanding Racial and Ethnic Differentials in Contraceptive Use Patterns in the Contemporary United States

Rebecca A. DiBennardo
Megan M. Sweeney
Department of Sociology
University of California, Los Angeles

Carolyn J. Crandall
School of Medicine
University of California, Los Angeles

Susan L. Ettner
School of Medicine &
School of Public Health
University of California, Los Angeles

November 14, 2013

*Submitted for presentation at the 2014 meetings of the European Population Conference, to be held in Budapest Hungary.

Extended Abstract

Rates of unintended pregnancy are considerably higher in North America than in Western or Southern Europe. In the United States, nearly half of all recent pregnancies remain mistimed or unwanted. Yet there is also tremendous variation in rates of unintended pregnancy within the U.S. population, with unintended pregnancies most common among women of color. Inequalities in reproductive health are of particular concern given the role they can play in perpetuating disadvantage across generations. Roughly half of U.S. women experiencing an unintended pregnancy used contraception during the month of conception, with most of these women using a method inconsistently or incorrectly (Finer & Henshaw 2006; Frost & Darroch 2008). These findings suggest that U.S. policy efforts to reduce disparities in unintended pregnancy should focus on increasing and improving use of contraception (Finer & Zolna 2011; Frost & Darroch 2008). In the United States, black and Hispanic women are relatively less likely than white women to use contraception, and among contraceptive users, are also less likely to use the most effective reversible methods (Jones, Mosher, & Daniels 2012). Underlying reasons for these differentials are not currently well understood.

In the current research, we use data from the 2006-10 National Survey of Family Growth (NSFG) to shed new light on racial and ethnic gaps in contraceptive use in the United States. We first consider explanations for differentials in nonuse of contraception at last sex in the past three months among all women at risk of unintended pregnancy. Conditional on using a reversible method at last sex, we then consider explanations for differentials in **use of the most highly-effective reversible methods** (HER), including hormonal methods and intrauterine devices, taking into account that some women use condoms and HER methods jointly to maximize protection against pregnancy and disease. Specifically, we consider (i) use of HER method(s) alone versus: (ii) condoms alone, (iii) combined condom and HER method, or (iv) other less effective method(s). Because some otherwise sexually-active women who had not had very recent sex may be misclassified as contraceptive nonusers under common measures of contraceptive use in the past month (e.g., NSFG's widely-used CONSTAT1 measure),[1] and because some women may use multiple methods sequentially over time rather than jointly for an individual sexual encounter, our outcome of interest here is contraceptive use at last sex in the past three months. When seeking to explain observed contraceptive use differentials, we consider the most comprehensive array of individual-level background factors to date. In addition to core demographic background factors such as education, parity, and relationship status, we consider a wide array of factors influencing a women's contraceptive goals (including risk of sexually-transmitted infections, perceptions of low fecundity), contraceptive access (including insurance coverage and having a regular source of care), and contraceptive evaluation (including risk factors for negative side effects of hormonal contraceptive use).

BACKGROUND AND APPROACH

Among all women at risk of unintended pregnancy, blacks are less likely than whites or

[1] For example, under conventional definitions of "contraceptive status in month of interview" presented in NSFG reports (e.g., Mosher & Jones 2010; Jones, Mosher, & Daniels 2012) and most other published articles using these data, a women who has had sex in the past three months, and always uses a condom when she has sex, would be classified as a contraceptive nonuser if she hadn't had sex during the month of interview.

Hispanics to be using any contraceptive method (Jones, Mosher, & Daniels 2012: Table 3). Among contraceptive users, black and Hispanic women are also less likely than white women to rely on the most effective methods. For example, black and Hispanic women are more likely than white women to rely on condoms for birth control and less likely to rely on more highly-effective reversible methods, such as the birth control pill or intrauterine device (IUD) (Jones, Mosher, & Daniels 2012: Table 6).

Choice of contraceptive method can have tremendous consequences for risk of unintended pregnancy. Some contraceptive methods are easier to use, and more convenient to use on a regular basis, than others. Unlike the condom, highly-effective reversible (HER) methods such as the Pill, Depo-Provera, and the intrauterine device (IUD) do not require interventions at the time of intercourse, which makes them more convenient to use, less dependent on the cooperation of a male partner, and less vulnerable to potentially impaired decision-making under conditions of sexual arousal (Ariely 2009). This fact is reflected in far wider differentials in failure rates across contraceptive methods under "typical use" than "perfect use" conditions. For example, among "typical" couples who begin using a method, 9% of users of the Pill but fully 18% of users of the condom become pregnant within the first year, compared to failure rates under 3% for both methods under "perfect use" conditions (Trussell 2011).

A variety of explanations for racial and ethnic disparities in contraceptive use have been considered. For example, differences between non-Hispanic white and black women in contraceptive nonuse or choice of a highly-effective method generally cannot be explained by background factors such as relationship status, age, parity, socioeconomic standing (e.g., education, family income), insurance status, or other financial barriers to access (e.g., Dehlendorf et al. 2011; Gaydos et al. 2010; Huber & Huber 2009; Jacobs & Stanfors 2013; Secura et al. 2010; Shih et al. 2011). Some evidence suggests, however, that socioeconomic factors may be a larger part of the explanation for disparities in contraceptive use between Hispanic and non-Hispanic white women (Jacobs & Stanfors 2013). Although many aspects of relationship context are also associated with contraceptive use patterns among young adults in sexually-active dating relationship (e.g., timing of first sex with partner, relationship quality, conflict, perceived stability, partner asymmetry), these factors fail to explain racial and ethnic differences in contraceptive use patterns (Manlove et al. 2011).

Racial and ethnic gaps in use of effective contraception also do not appear to be about the strength of fertility intentions. Among young unmarried women, blacks actually report stronger motivation to avoid pregnancy than do similar whites, although foreign-born Hispanic women are less likely than white women to say they would feel upset were they to become pregnant (Hayford & Guzzo 2013). Among women having a recent unintended birth, non-Hispanic whites are substantially more likely than Hispanics or non-Hispanic Blacks to indicate that not using contraception at conception was at least partially the result of not really minding if they became pregnant (Mosher, Jones, Abma 2012: Table 6).

Yet a number of other factors may offer more promising explanations for racial and ethnic differentials in contraceptive use. For example, many young women underestimate their chances of getting pregnant after sex, which may weaken motivation to avoid pregnancy through use of effective contraception. Among unmarried young adults, non-Hispanic white women are only about half as likely as non-Hispanic black and Hispanic women to express concerns that they may be infertile. Fully one-third of young unmarried Hispanic women report that it is extremely likely or quite likely that they are infertile (Kaye, Suellentrop, & Sloup 2009). Reasons for these differences remain insufficiently understood, however, and efforts to clarify

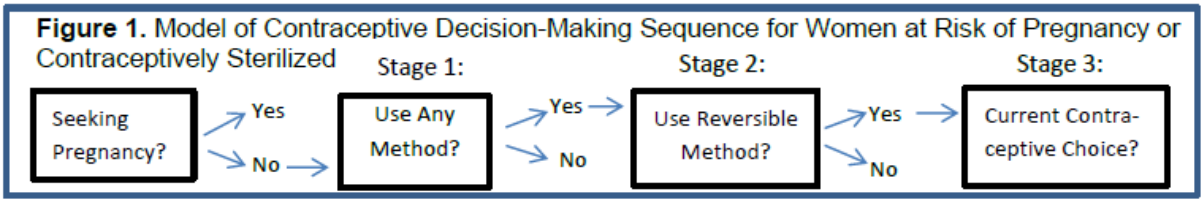
their role in contraceptive use patterns are limited. Yet among women who had a recent unintended birth, the belief that pregnancy was not a possibility was cited by nearly half of Hispanic women as a reason for not using contraception at conception, compared with 35% of Non-Hispanic White women and 25% of Non-Hispanic black women (Mosher, Jones, & Abma 2012: Table 6).

Although condoms provide protection against STIs, more effective methods of pregnancy prevention such as the birth control pill or IUD do not. STI rates vary substantially across racial and ethnic groups, with rates of new HIV diagnosis among black women a remarkable 20 times higher than among white women and five times higher than among Hispanic women (CDC 2012). These differences in disease risk context may increase the salience of STI-protection for contraceptive choice for black and Hispanic women relative to white women. In addition to potentially raising STI risk, having a new partner may also make it more difficult to anticipate sex. Not expecting sex was reported more often by Non-Hispanic black women than Non-Hispanic white or Hispanic women as a reason for not using contraception at the time of a conception preceding an unintended birth (Mosher, Jones, & Abma 2012: Table 6). Increasing use of birth control methods which do not require interventions at the time of sex (e.g., hormonal methods, intrauterine devices) would thus seem to have a particularly important role in reducing unintended pregnancy among black women.

Finally, contraceptive use differentials may also be influenced by access to health care or women's own health status. The most effective methods of contraception require access to a medical professional, and relatively lower access to high quality medical care by Blacks and Hispanics than Whites is well established (Smeadley et al. 2003). Several indicators of physical health and health behaviors vary across racial and ethnic groups and are also associated with contraceptive use. For example, smoking, physical inactivity, obesity, and diabetes are associated with an increased likelihood of contraceptive nonuse, both overall and relative to use of the birth control pill (Chuang et al. 2005; Huber & Huber 2009; Vahratian et al. 2009). This is perhaps not surprising, given that clinical guidelines point to an elevated risk of negative health outcomes associated with combined hormonal contraceptive use for women with these and other specific health conditions (CDC 2010). Results from at least one study suggest, however, that the association of contraceptive nonuse with obesity and diabetes results from socio-demographic factors rather than these conditions themselves (Vahratian et al. 2009).

Conceptual Framework

This project is guided by a modified version of Rindfuss, Swicegood, and Bumpass's (1989) conceptual framework for the sequence and structure of choices in contraceptive decision making (see Figure 1). We treat the decision to contracept as conditional on not seeking pregnancy, and assume that the decision to use a nonreversible method precedes contraceptive choice at time of interview. We focus here on racial and ethnic disparities at Stages 1 and 3 of the contraceptive decision-making process: contraceptive nonuse and current contraceptive choice among users of reversible contraceptive methods.



To identify factors that influence individual contraceptive outcomes within the decision sequence above, we modify Bulatao's (1989) framework for contraceptive choice, in which the specific method used is influenced by three sets of factors: contraceptive goals, contraceptive access, and contraceptive evaluation. Each of these factors may be affected by a woman's relationship or personal background characteristics (e.g., prior births, age, relationship status).

- **Contraceptive goals** include factors such as whether a woman intends to stop versus space births and her level of flexibility in fertility goals. We also extend Bulatao's original framework to include STI protection as an additional contraceptive goal, which we expect to influence the salience of disease versus pregnancy prevention. This may be affected by an individual's own STI risk behaviors or by the level of exposure to STIs in the local community.
- **Contraceptive access** includes factors affecting the availability and affordability of contraception, such as whether a woman has insurance coverage or a usual source for care, state laws governing contraceptive access or cost (e.g, mandates for insurance coverage of contraceptives, minor consent laws) and local availability of family planning clinics.
- **Contraceptive evaluation** includes acceptability of contraception / particular methods. Contraceptive evaluation also involves the salience of health risks associated with particular methods, ranging from minor side effects to serious health consequences such as myocardial infarction. Here we incorporate clinical insights about factors and conditions which raise the risk of negative health consequences associated with combined hormonal contraceptive use, such as diabetes, smoking, and obesity (CDC 2010). Risks perceived by a woman or her doctor may affect method choice.

DATA AND ANALYSIS

Data for our study are drawn from the 2006-10 National Survey of Family Growth (NSFG). The sample size is relatively large, including a total of 12,279 women (6,301 Non-Hispanic white, 2,535 Non-Hispanic black, 2,723 Hispanic, and 720 other Non-Hispanic). The NSFG interviewed men as well as women, but data from men are not used in the current analysis. The NSFG is particularly appropriate for the current analysis because detailed information is gathered on contraceptive method use, as well as key background factors such as education, marital / relationship status, parity, age at first birth, race, ethnicity and nativity. All analyses and descriptive statistics are adjusted for the complex sample design.

Our research proceeds in a series of two stages. In the **first stage** of the research, we rigorously describe unadjusted racial and ethnic differences in patterns of (i) contraceptive nonuse among women at risk of unintended pregnancy (had sex in past three months, not pregnant, seeking pregnancy, or non-contraceptively sterile) and (ii) class of method chosen among users of reversible contraceptive methods. Because of documented differentials contraceptive use patterns and broader reproductive health outcomes by country of origin and nativity among U.S. Hispanics, we differentiate Mexican-origin women from other Hispanics and native-born from foreign-born Hispanic women. In the **second stage** of the research, we consider whether key hypothesized explanatory factors can explain racial and ethnic differences in patterns of use identified in stage 1. We estimate binary logistic regression models for the

analysis of contraceptive nonuse (conditional on being at risk of unintended pregnancy) and multinomial logistic regression models for the analysis of method choice (conditional on using any reversible method). As previously noted, the latter analysis considers a four-category outcome measure: use of HER method alone (i.e., hormonal method or IUD), condom alone, combined HER method and condom, other less effective method.

Key explanatory factors considered in the analysis include measures of contraceptive goals, access, and evaluation. Measures of **contraceptive goals** include measures such as perceptions of low fecundity, plans for any additional births, and factors affecting the salience of disease prevention (e.g., having a history of sexually transmitted infection, any new opposite-sex sexual partner, and having multiple sexual partners) . Measures of **contraceptive access** include type of insurance coverage, whether there was any period of non-coverage in the past year, and whether the respondent has a usual place for medical care. Measures of **contraceptive evaluation** include religious upbringing (which may affect moral considerations associated with contraception or with a particular method) and also factors potentially associated with the risk of side-effects from use of combined hormonal contraceptives such as having diabetes, being in fair or poor health, being overweight or obese, and smoking behavior. We also construct basic control measures for demographic background factors such as age, parity, education, family income, nativity, school enrollment, marital / relationship status, and family background.

PRELIMINARY RESULTS

Bivariate Findings

We begin by documenting racial and ethnic differentials in contraceptive use at last sex. Considerable differences exist in contraceptive use patterns with respect to contraceptive nonuse among all women at risk of unintended pregnancy and type of method chosen among all users of reversible methods. We first consider rates of contraceptive nonuse. Among women ages 15-44 at risk of unintended pregnancy, non-Hispanic blacks are more likely to be non-users of contraception than are non-Hispanic whites (14.4% vs. 7.5%, respectively). Although specific rates of contraceptive use vary by country of origin and nativity among Hispanics, rates of contraceptive nonuse among Hispanic groups tend to fall between those for non-Hispanic whites and Blacks.

We next turn to contraceptive use patterns at last sex among women relying on reversible methods. Consistent with prior research, rates of highly-effective reversible (HER) contraceptive use are higher for non-Hispanic white than black women. Fully 48.6% of non-Hispanic white women are relying on the most highly-effective reversible methods (hormonal methods or IUDs) alone, compared to only 33.2% of non-Hispanic black women. Non-Hispanic white and black women combine HER methods with condoms at similar rates (10.5% vs. 11.5%, respectively). Overall rates of HER method use among Hispanic women fall roughly between those observed for non-Hispanic white and black women, although we note that native-born Hispanic women are more likely than foreign-born Hispanic women to combine HER methods with condoms (e.g., among Mexican-origin women, 9.4% of native-born women use both HER methods and condoms, compared with less than 1% of foreign born women), whereas foreign-born Hispanic women are more likely to rely on HER methods alone (e.g., among Mexican-origin women, 50.2% of foreign-born women rely on HER methods along, compared to 39.3% of native-born women).

Regression Results

We next attempt to identify explanations for the previously described differences in contraceptive use patterns among white, black, and Hispanic women. We begin with the analysis of any method use, conditional on being at risk of unintended pregnancy. In our baseline model, we identify a significantly lower likelihood of using any method among black than white women, but no significant differences between white and Hispanic women. In preliminary logisitc regression models, differences between white and black women in the use of any method remain even after adjusting for demographic background factors (e.g., educational attainment, age, parity, marital / union status, school enrollment and metropolitan status of residence) and contraceptive access (e.g., insurance status, family income). Our next steps in the analysis will be to add to these models an expanded array of measures of contraceptive goals which more fully account for sexually-transmitted infection risk and also factors which may affect contraceptive evaluation by increasing the risk of negative side effects associated with use of hormonal contraceptives (described above).

Finally, we use multinomial regression models to consider whether contraceptive goals, access, evaluation, and/or demographic background factors can explain racial and ethnic differences in use of HER methods among women using any reversible method. Here we focus particularly on the contrast between the likelihood of using a HER method versus the condom. This contrast is of particular interest given that HER methods provide relatively greater protection from pregnancy than do condoms, but do not share the condom's protection from sexually-transmitted infections.

In our baseline models, which regress contraceptive method use on race / ethnicity, we find white women to be more likely than black or Hispanic women to rely on a HER method rather than the condom. We next ask whether these differences can be explained by group differences in demographic background factors or contraceptive access. In short, it appears that these factors can explain differences between white and Hispanic women in use of HER methods (vs. condom), but cannot explain observed differences between white and black women. Again, our next steps in the analysis will be to add to these models an expanded array of measures of contraceptive goals which more fully account for risk of sexually-transmitted infection and also factors which may affect contraceptive evaluation by increasing the risk of negative side effects associated with use of hormonal contraceptives (described above).

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