

# **Contraceptive efficacy, ambivalence and the role of contraceptive service providers in helping women avoid unintended pregnancy**

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## **DETAILED ABSTRACT**

### ***Description of Topic***

Many women and couples have difficulty using their contraceptive methods consistently and correctly every time they have sex. As a result, unintended pregnancies continue to occur far too often. Although some unintended pregnancies are the result of true method failure, the majority occur when couples fail to use any method, even though they are not trying to become pregnant, or they use a method incorrectly. This study uses data from a 2004 nationally representative telephone survey of women to examine contraceptive use behaviors—measuring the extent of imperfect method use, identifying difficulties faced by women and their partners around consistent and effective contraceptive use and exploring factors associated with imperfect use—and to suggest ways of improving contraceptive use.

### ***Theoretical framework***

The immediate pathways through which unintended pregnancies occur are nonuse or imperfect use of contraceptives and use-failure during method use. In order to identify strategies for helping women become more consistent and effective contraceptive users, we investigated women's contraceptive use patterns and the factors contributing toward method gaps and incorrect method use. We began with a theoretical framework that hypothesized both direct and indirect affects of a range of background factors on contraceptive use patterns. These background factors can be grouped into several domains: personal characteristics, community, family, peer characteristics, relationship and partner characteristics and socio-economic characteristics. Additional domains included in this framework are motivation to avoid pregnancy, life changes, attitudes toward and experiences with contraceptive service providers and attitudes toward and experiences with contraceptive methods. Based on this theoretical framework, a survey instrument was developed to obtain detailed information from women about their contraceptive use behaviors, and about many of the individual measures included in each domain. The survey also focused on measuring contraceptive efficacy, a construct that has been poorly documented in prior research.

## ***Data and Research Methods***

In early 2004, 2,000 women aged 18-44 who were at risk for unintended pregnancy during the prior 12 months were interviewed by telephone. The sample was designed to be nationally representative of all 50 U.S. states. Eligible respondents were identified using Random Digit Dial (RDD) sample generation and a two-stage sampling procedure. Initially, 25,588 households were screened to learn if any women aged 18-44 lived in the household. If so, one woman of the right age was randomly selected and asked a series of screener questions to determine if she was eligible to participate. Of the 5,593 households identified with one or more age-eligible women, 5,322 were screened; of these, 2,670 women were at risk for unintended pregnancy and therefore eligible for the full survey. Women were defined as being at risk for unintended pregnancy if they reported having had sexual intercourse (with a man) in the past year, were not currently pregnant or postpartum (2 months or less since giving birth), were not currently trying to get pregnant and were not sterile.

Rigorous attempts were made by interviewers to screen households and follow-up with eligible respondents on weekdays, weekends and evenings. Up to 25 telephone calls were made to each household to complete an interview. Interviews were completed with 2,000 eligible women (although 2 surveys had to be dropped during data cleaning). Interviews averaged 30 minutes and women were asked to provide detailed information on a range of topics, including:

- *Contraceptive use behavior:* contraceptive use over the past 12 months, periods when no method was used and risk status during those periods, reasons for stopping or starting method use, frequency and type of difficulties encountered using methods;
- *Personal characteristics:* childbearing goals, motivation to prevent pregnancy, perception of risk for unintended pregnancy and STDs, risk behaviors, and timing of life changes—partner changes, employment/school changes, residence changes—around method gaps.
- *Sexual relationship and partner characteristics:* union status, frequency of sex, relationship stability, communication about contraception
- *Socio-economic characteristics:* income and poverty status, receipt of public benefits, education, employment, insurance status, race and ethnicity, nativity, language, religion/religiousity;
- *Experiences with contraceptive service providers:* access to providers, type of provider visited, past positive or negative experiences with providers, cost of services and methods and payment method, managed care and use of provider lists, contraceptive education and information provided, helpfulness with method side effects.

Although our survey methodology was designed to produce a random sample of U.S. women, factors such as sampling error and differential response may have led to some subgroups being over or under represented in the final data set. We compared the distribution of women in our sample on key characteristics with the distribution of similar women in the 2002 National Survey of Family Growth (NSFG)—a nationally representative household survey of women of reproductive age—and found some differences (our sample was slightly more likely to be older, married and Hispanic). We therefore constructed weights using the NSFG distribution of women that adjusted for differences in age, race/ethnicity and marital status.

## ***Prior Analyses***

Initial analysis of these data have been presented (Frost, PAA, 2005) and submitted for publication (Frost, et al, 2006a, 2006b, submitted). These first analyses focused on constructing a typology of method use patterns that classifies women according to the level of risk (for unintended pregnancy) associated with their contraceptive method stopping, starting and switching behavior during the prior twelve months. Overall, one in four women at risk for unintended pregnancy (23%) was at high risk, experiencing one or more months in the prior year when they were not using any contraceptive method (15% were using a method(s) for some of the year, while 8% used no method all year). Four in ten (39%) were at some potential risk during periods of method switching (15% stopped method use because they were pregnant or not sexually active, 24% switched methods or method combinations). And, finally, 38% were at low risk (for unintended pregnancy) as they used the same method(s) continuously during all of the past year. In our analysis, we examined the importance of a variety of factors in predicting whether or not women were at high risk for unintended pregnancy because of contraceptive nonuse during one or more months. Although socio-demographic factors were important in predicting nonuse for the entire year, they were not so important in distinguishing those women who experienced a gap in use of less than 12 months. We found that women's attitudes toward preventing pregnancy were significant predictors of both nonuse and gaps in use, as were women's experience with contraceptive service providers and their satisfaction with their contraceptive method. We used these findings to suggest ways that contraceptive service providers could identify and provide more intensive counseling for those women at higher risk for experiencing a gap in method use.

## ***Planned analyses***

Following these earlier analyses, this paper will provide new information on the level of incorrect and inconsistent method use. It will then examine the factors associated with contraceptive efficacy among women who reported using oral contraceptives, condoms, hormonal injectable contraceptives or other barrier methods in the prior 3 months. In measuring contraceptive efficacy, we asked women about the frequency of missing pills, mistiming of pills, skipping condom use, breakage, slipping or leaking of condoms and late return for injection among others. (See Charts 1 and 2 with preliminary data on pill and condom errors.) Using these measures of incorrect use, we create a scale that indicates the level of efficacy experienced by users of each method. We then compare women who report "perfect" method use with those who report different levels of incorrect use to investigate which factors help to explain why some women have difficulties using their contraceptive methods effectively. Again, we will look at socio-demographic characteristics, as well as personal, relationship and service provision measures. In particular, because of our findings that that women's attitudes (or ambivalence) about avoiding pregnancy were so important in predicting gaps in method use, we will examine whether these same variables have similar importance in predicting which women will be less effective contraceptive users. Finally, we will look at women's experiences with contraceptive service providers and method satisfaction. How do these variables predict contraceptive efficacy, once background variables are controlled for? The analysis will include both bivariate and multivariate tabulations. We expect to use logistic regression to assess the relative importance of different factors in predicting contraceptive efficacy.

## Discussion

We expect to use the findings from this analysis to make recommendations for improving contraceptive use. In particular, we will discuss the relative importance of factors that are less amenable to change, for example, women's attitudes toward pregnancy compared to factors that providers may be better equipped to impact. By understanding the factors that contribute to inconsistent or incorrect method use, we will be able to provide suggestions to providers about ways to serve or counsel women more appropriately. We hope that these analyses will suggest policy efforts that might contribute to more accessible services and methods for those women having the most difficulty continuing consistent method use.

CHART 1.

### Women have difficulty using the pill consistently and correctly

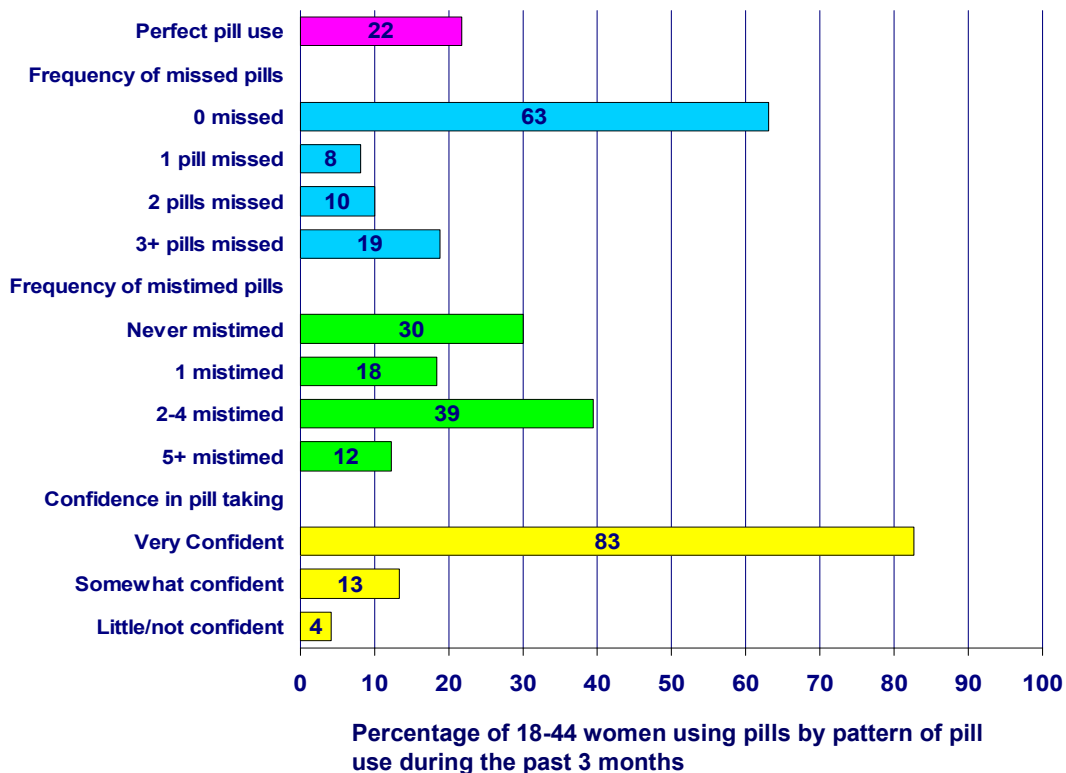
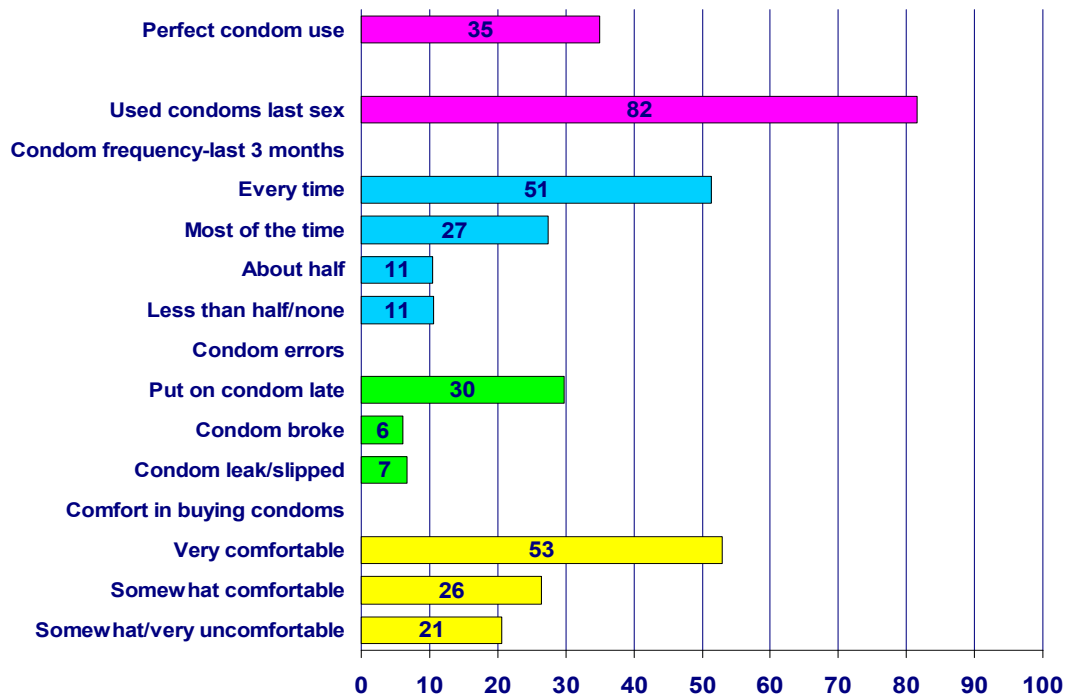


CHART 2.

## Couples have difficulty using condoms consistently and correctly



Percentage of 18-44 women using condoms by pattern of condom use and experience with condom errors during the past 3 months