

# Contraceptive Use Among U.S. Women Having Abortions in 2000–2001

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**CONTEXT:** Knowing the extent to which contraceptive nonuse, incorrect or inconsistent use, and method failure account for unintended pregnancies ending in abortion, as well as reasons for nonuse and imperfect use, can help policymakers and family planning providers support effective contraceptive use.

**METHODS:** Contraceptive use patterns among a nationally representative sample of 10,683 women receiving abortion services in 2000–2001 were examined, as well as reasons for nonuse, problems with the most frequently used methods and the impact emergency contraceptive pills have had on abortion rates.

**RESULTS:** Forty-six percent of women had not used a contraceptive method in the month they conceived, mainly because of perceived low risk of pregnancy and concerns about contraception (cited by 33% and 32% of nonusers, respectively). The male condom was the most commonly reported method among all women (28%), followed by the pill (14%). Inconsistent method use was the main cause of pregnancy for 49% of condom users and 76% of pill users; 42% of condom users cited condom breakage or slippage as a reason for pregnancy. Substantial proportions of pill and condom users indicated perfect method use (13–14%). As many as 51,000 abortions were averted by use of emergency contraceptive pills in 2000.

**CONCLUSIONS:** Women and men need accurate information about fertility cycles and about the risk of pregnancy when a contraceptive is not used or is used imperfectly. Increased use of emergency contraceptive pills could further reduce levels of unintended pregnancy and abortion.

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Some 45 of every 1,000 women aged 15–44 in the United States had an unintended pregnancy in 1994 (the latest year for which data are available).<sup>1</sup> The high level of unintended pregnancy can be attributed to three factors: the failure of couples at risk of unintended pregnancy to practice contraception, incorrect or inconsistent use of contraceptive methods, and method failure among those practicing contraception correctly and consistently.

Approximately one-half of unintended pregnancies end in abortion.<sup>2</sup> A substantial minority of women having abortions—42% in 1994–1995<sup>3</sup> and 49% in 1987<sup>4</sup>—became pregnant because they and their partners were not using a contraceptive method. It is unknown, however, what proportion of pregnancies among method users were due to inconsistent or incorrect contraceptive use and what proportion were accounted for by method failure.

In this article, we describe the extent to which contraceptive nonuse, problems with contraceptive use and failure of contraceptive methods account for unintended pregnancies ending in abortion in the United States. We also examine variations in these three factors among subgroups of women. Data for the analyses come from a national survey of women having abortions, conducted by The Alan Guttmacher Institute (AGI) in 2000–2001. This survey, which replicates similar surveys of women having abortions in 1987 and 1994–1995,\* expands on previous work by

examining reasons for nonuse of contraceptives and, among women using a contraceptive method, reasons for pregnancy. It also includes information on use of emergency contraceptive pills, from which we estimate the impact of emergency contraception on abortion levels since 1994.

## METHODS

### Data Collection

We used a self-administered questionnaire to gather information about social and demographic characteristics and contraceptive practices from a representative sample of women obtaining abortions. We provide below an overview of the data collection method; procedures of sampling and weighting are described in detail elsewhere.<sup>5</sup>

We selected a stratified probability sample of abortion facilities from a list of all hospitals, clinics and physicians' offices in which 30 or more abortions were performed in 1996.<sup>†</sup> Eight hospitals and 92 nonhospital facilities successfully administered the survey to all women who had an abortion during a specified period, ranging from two to 12 weeks, between July 2000 and June 2001; 71% of surveys were administered in 2000, and most were completed

\*For ease of presentation, we will refer to the survey dates as 1994 and 2000.

†Facilities providing at least 30 abortions accounted for more than 99% of all reported procedures in 1996, the year of AGI's most recent survey of all U.S. abortion providers when our survey was fielded.

ed while women waited for their procedure. Usable questionnaires were returned by 10,683 of the 13,071 women who had abortions at participating facilities during the study period, which produced a response rate of 82%.

We computed multistage weights to compensate for differential nonresponse in specific facilities and among subgroups of women, as well as for deviations from the original sampling plan. Nonresponse for most items was 2–4% but ranged from 1% (for measures on previous pregnancy experience) to 33% (for items about reasons for nonuse of a contraceptive method).<sup>\*</sup> We imputed missing information for key demographic and contraceptive use items on the basis of responses given by women with similar characteristics by using a “hot-deck” procedure.<sup>†</sup>

The four-page questionnaire, prepared in both English and Spanish, was modeled on those used in AGI’s prior surveys of U.S. women obtaining abortions. It included a description of the purpose of the survey, as well as an explanation that participation was voluntary, confidential and anonymous, and would not affect the services that the woman would receive. The questionnaire and survey procedures were approved by the AGI Institutional Review Board.

Women were asked what contraceptive method, if any, they had last used before finding out they were pregnant, for how long they had been using that method and when they had stopped using it.<sup>‡</sup> We considered women to have been contraceptive users if they had been using a method during the calendar month they became pregnant and had not intentionally stopped doing so before becoming pregnant. Included in this category were women who had started using a method before becoming pregnant and had stopped after the month of conception. If the month of conception was unknown, a woman was considered a user if she had been using a method up to one month before the abortion, and a nonuser if she had stopped using a method at least three months before the abortion.

According to the dates of method use and the estimated dates of conception, 10% of women had started or stopped using a contraceptive method during the month of conception. These women were classified as users if, in

response to another question, they reported the use of a method during the month they became pregnant.<sup>§</sup> For women whom we still could not classify as a contraceptive user or nonuser because of missing data, we examined responses to other relevant questions when possible; otherwise, we imputed missing items.

Women who had used oral contraceptives or barrier methods in the month that they had become pregnant were asked to indicate their perceived reason for the pregnancy from a list of potential reasons. The list included an opportunity to write in other reasons, as well as the option of indicating “I used it perfectly, but the method failed.”<sup>\*\*</sup> Women who had not used birth control in the month of conception were provided with a list of potential reasons for nonuse and an opportunity to write in other reasons.

### Statistical Analysis

We present data that were weighted to be nationally representative of women having abortions during the 12-month study period. We used t-tests to determine whether subgroups differed significantly from one another in their contraceptive method use, perceived reasons for nonuse and perceived reasons for pregnancy while using the pill or condom. Logistic regression was used to examine independent relationships between women’s characteristics and contraceptive use. Tests of significance were performed using STATA version 7, which took into account the clustering and weighting of the sample. We used SPSS version 11.01 for data management and all other analyses.

## RESULTS

### Women’s Characteristics

All social and demographic groups are represented among women having abortions; the characteristics of this population have been discussed elsewhere.<sup>6</sup> More than half of respondents (56%) were in their 20s; women in their 30s accounted for 22% of abortions and adolescents for 19%. Seventeen percent of women were married, 67% had never been married and the remainder had previously been married; 31% of single women were cohabiting. The majority of women (61%) had one or more children. Women with

<sup>\*</sup>This high level of nonresponse for nonusers was because contraceptive use was imputed for some women (10% of nonusers) and because of a problem with survey wording. The question introducing the series of items asking about reasons for nonuse read “Why have you never used a method or during the month you became pregnant, why were you not using any contraceptive or other method to prevent pregnancy?” Women who read this rapidly may have assumed that the following items pertained only to women who had never used a method. By examining cross-tabulations of nonresponse by prior contraceptive use, we found support for this explanation: Only 18% of women who had never used a method failed to answer this series of items, compared with 36% of prior users.

<sup>†</sup>For each item requiring imputation, we used cross-tabulations to identify the variables most strongly associated with it. Respondents were sorted according to these variables in the order of the strength of the item’s association with the variable to be imputed, so that similar cases were adjacent to one another in the file. A missing value was then replaced by the value of the preceding case in the file with available data. Subcategories of specific reasons for contraceptive nonuse and specific reasons for inconsistent pill and condom use were not imputed on a case-by-case basis; instead, we assumed that women who did not provide responses to these items resembled women who did provide responses.

<sup>‡</sup>Twelve percent of all women having abortions indicated that they had

last used more than one contraceptive method. Information from an item asking about the method used in the month of pregnancy allowed us to determine the last method used for about half of these women (5% overall). We assumed that the rest had been using the most effective method they reported.

<sup>§</sup>Some of these women reported both that they had used a contraceptive method in the month they became pregnant and that they had stopped method use before becoming pregnant. In past AGI surveys, such women were classified as nonusers. However, on the basis of changes in the survey, including changed order of questions, reworded questions and new items about pill and barrier method users’ perceptions of why they became pregnant, we classified them as users in this analysis. Most of these women answered the new questions, and their responses indicated that they had been contraceptive users when they became pregnant, although they may have used their method inconsistently. Information provided by respondents on problems with specific methods provides assurance that our classification was correct and comparable between surveys. We estimate that if this procedure incorrectly categorized women as contraceptive users, this would have affected fewer than 1% of all respondents.

<sup>\*\*</sup>One percent of pill users and of condom users indicated both perfect use and some other potential reason for pregnancy (e.g., inconsistent use). Estimates of perfect use are restricted to those who gave only this response.

**TABLE 1. Percentage distribution of women obtaining abortions in 2000, by contraceptive method used in the month of conception, and of women at risk of unintended pregnancy in 1995, by contraceptive method used**

Method	Women having abortions, 2000	Women at risk of unintended pregnancy, 1995†
<b>Any method</b>	<b>53.7</b>	<b>92.5</b>
Long-acting	1.1	40.5
Sterilization	0.1	35.8
IUD	0.1	0.7
Implant/injectable	0.9	4.0
Pill	13.6	24.9
Male condom	27.6	18.9
Withdrawal	7.3	2.8
Periodic abstinence	2.2	2.1
Other‡	1.9	3.3
<b>No method</b>	<b>46.3</b>	<b>7.5</b>
Never used	8.1	0.1
Previously used	38.2§	7.4
<b>Total</b>	<b>100.0</b>	<b>100.0</b>
Unweighted N	10,683	7,725
Weighted N (in 000s)	1,313	41,796

†Based on special tabulations from the 1995 National Survey of Family Growth. Includes women using a contraceptive method in the survey month and fertile women using no method who had intercourse in the previous three months and were not pregnant, seeking pregnancy or postpartum and whose partner was not sterile. ‡Female condom, diaphragm, foam, sponge, suppository or any other method. §Includes women who used only emergency contraceptive pills to prevent the current pregnancy. Source: Weighted number of women having abortions from reference 5.

family incomes less than 200% of the federal poverty level accounted for 57% of abortions; 27% were poor (had incomes below 100% of poverty). Forty-one percent of women were non-Hispanic white, 32% non-Hispanic black and 20% Hispanic; the remainder were members of other racial and ethnic groups.\*

**Contraceptive Use Patterns**

More than half of women obtaining abortions in 2000 (54%) had been using a contraceptive method during the month they became pregnant (Table 1). This figure is slightly lower than the proportion of women having abortions in 1994 who had been contraceptive users (58%),<sup>7</sup> but slightly higher than the proportion reported in 1987 (51%).<sup>8</sup> In 2000, approximately 15% of women had been using the most effective methods—1% used long-acting methods (sterilization, the IUD, implants or injectables) and 14% the pill. Twenty-eight percent of all women having abortions had used the male condom, down from 32% in 1994 (the only method to decline by more than three percentage points).<sup>9</sup> Withdrawal and periodic abstinence had been used by roughly one in 10 women having abortions.

Forty-six percent of women had not used a method in the month of conception, but 38% had used one previously. Of these prior users, 42% had used a contraceptive method within three months of conception, and 65% had used a method within six months (not shown). Eight percent of

women having abortions indicated that they had never used a contraceptive method, down from 11% in 1994<sup>10</sup> and 9% in 1987.<sup>11</sup>

The pattern of contraceptive use among women having abortions was very different from that among all women at risk of having an unintended pregnancy in 1995, the latest year for which national data are available (Table 1). The distribution of women having abortions by contraceptive method used is a function not only of the contraceptive use pattern of all women, but also of the rate of accidental pregnancy among method users (the use-failure rate) and of the proportion of women with accidental pregnancies who have abortions.

Women using no contraceptive method made up a larger proportion of women having abortions than of all women at risk of unintended pregnancy (46% vs. 7%), mainly because the likelihood of pregnancy is extremely high among fertile, sexually active women when they do not use a contraceptive method. In contrast, a substantially lower proportion of women having abortions than of all women at risk of unintended pregnancy had used sterilization and other long-acting methods (1% vs. 41%), which reflects the very high rates of use-effectiveness of these methods. Pill users were underrepresented among women having abortions, whereas women using condoms and withdrawal were overrepresented. These patterns reflect the fact that women using oral contraceptives are more successful in avoiding accidental pregnancy than are those who rely on barrier or nonprescription methods.<sup>12</sup>

**Contraceptive Nonusers**

The proportion of women having abortions who had not been using a contraceptive when they became pregnant varied across social and demographic subgroups from 37% to 54% (Table 2). Bivariate analyses reveal that adolescents and women aged 20–24 were significantly more likely than women aged 30 or older to be nonusers (47–50% vs. 44%). Decreases in income and education are associated with increased contraceptive nonuse: Women with family incomes below 300% of the federal poverty level were more likely than women with higher incomes not to be using a method of birth control in the month they became pregnant (45–52% vs. 40%), and women with less than a college degree were significantly more likely than college graduates to be nonusers (41–54% vs. 37%). Blacks, Hispanics and women of other races and ethnicities were more likely than whites to be nonusers (50–52% vs. 39%). Union status was barely associated with nonuse of contraception. Women who were the most likely to be nonusers were also the most likely never to have used a contraceptive method. For example, adolescents were more likely than women aged 30 or older to have never practiced contraception (12–19% vs. 7%).

We used logistic regression to determine if the associations between contraceptive nonuse and women’s characteristics were independent of the impact of other characteristics (Table 2). In these analyses, adolescents were as

\*All racial designations refer to non-Hispanic women of those races.

likely as women aged 30 or older to have been using no method when they became pregnant; differences in nonuse by poverty status also disappeared. However, the likelihood of nonuse was higher among nonwhites and Hispanics than among whites (odds ratios, 1.5–1.7), and higher among women with no more than a high school education than among college graduates (1.7–1.9). In addition, women who were divorced, separated or widowed had a higher likelihood than married women of not having used a contraceptive method when they became pregnant (1.2).

### Reasons for Contraceptive Nonuse

The most common category of reasons for contraceptive nonuse was the perception that a woman was at low risk of becoming pregnant (cited by 33% of nonusers, including 6% who thought that they or their partner was sterile—Table 3, page 298). Concerns about contraceptive methods were cited by 32% of nonusers and included mainly problems with methods in the past (20%) and fear of side effects from methods (13%). A substantial proportion of women said they had had unexpected sex (27%), with 1% indicating that unwanted sex was a reason for nonuse. Slightly more than one in five women had been ambivalent about contraception. Twelve percent of nonusers had encountered problems accessing contraception, such as financial barriers, and 10% indicated their partner's preferences as a reason for nonuse. The least common reasons that nonusers reported reflected ambivalence about becoming pregnant (5%) and fear that their parents would learn they were sexually active (2%). One-third of nonusers indicated multiple categories of reasons for not having used a method. The most common overlap was between perceived low risk of pregnancy and not expecting to have sex (9% of all nonusers—not shown).

Reasons for not having used a contraceptive method in the month of conception varied across subgroups of women (Table 4, page 299). Adolescents were more likely than women aged 30 or older to attribute nonuse to ambivalence about contraception or to fear that their parents would find out they were having sex. Adolescents younger than 18 were the most likely to indicate that unexpected sex was a reason for nonuse but the least likely to indicate that partner preferences were a reason. Adolescents aged 18–19 were more likely than women aged 30 or older to cite concerns about methods as a reason for nonuse. Women in their 20s were less likely than older women to indicate that perceived low risk was a reason for pregnancy.

Union status is an indicator of, among other things, frequency and predictability of sexual intercourse, which are likely to affect contraceptive use. For example, less-frequent sexual activity may help explain why never-married and previously married women were more likely than married women to perceive themselves to be at low risk (35–36% vs. 29%). Previously married and never-married women also were more likely than married women to indicate that unexpected or unwanted sex was a reason they were not using a contraceptive method (33–40% vs. 17%). Never-

**TABLE 2. Percentage distribution of women obtaining abortions, by contraceptive use in the month of conception, and odds ratios from logistic regression analysis predicting the likelihood of contraceptive nonuse—all according to selected characteristics**

Characteristic	N	Not using			Using	Total	Odds ratio
		Total	Never used	Previously used			
<b>All</b>	<b>10,683</b>	<b>46.3</b>	<b>8.1</b>	<b>38.2</b>	<b>53.7</b>	<b>100.0</b>	<b>na</b>
<b>Age</b>							
<18	756	48.9*	18.5***	30.4**	51.1	100.0	0.81
18–19	1,291	50.4**	11.9***	38.6	49.6	100.0	1.07
20–24	3,570	46.7*	7.2	39.5	53.3	100.0	1.05
25–29	2,449	45.2	6.1	39.0	54.8	100.0	1.01
≥30 (ref)	2,617	44.1	6.5	37.5	55.9	100.0	1.00
<b>Union status</b>							
Married (ref)	1,806	43.6	8.3	35.2	56.4	100.0	1.00
Cohabiting†	2,726	46.6	6.2*	40.4**	53.4	100.0	1.05
Previously married‡	1,168	47.6	5.5**	42.1***	52.4	100.0	1.20*
Never-married	4,983	46.8*	9.8	37.1	53.2	100.0	1.02
<b>Poverty status§</b>							
<100%	2,876	52.3***	11.2***	41.1***	47.7	100.0	1.14
100–199%	3,321	47.2***	8.5***	38.7**	52.8	100.0	1.09
200–299%	1,908	45.2**	7.4***	37.8*	54.8	100.0	1.11
≥300% (ref)	2,578	39.6	5.0	34.6	60.4	100.0	1.00
<b>Race/ethnicity</b>							
White (ref)	4,355	38.7	4.3	34.3	61.3	100.0	1.00
Black	3,353	51.9***	8.0***	43.9***	48.1	100.0	1.65***
Hispanic	2,213	51.5***	13.1***	38.4*	48.5	100.0	1.45***
Other	762	50.4***	16.6***	33.8	49.6	100.0	1.66***
<b>Education</b>							
<H.S.	2,105	54.2***	16.3***	37.9**	45.8	100.0	1.92***
H.S. graduate	3,336	51.6***	8.6***	42.9***	48.4	100.0	1.66***
Some college	3,862	41.0*	4.5	36.4**	59.0	100.0	1.12
College graduate (ref)	1,380	37.0	4.9	32.1	63.0	100.0	1.00
<b>Fertility intentions</b>							
Intend no (more) children (ref)	2,765	45.6	6.3	39.3	54.4	100.0	1.00
Intend (more) children	5,502	46.6	9.0***	37.5	53.4	100.0	1.06
Do not know	2,416	46.5	8.3*	38.2	53.5	100.0	1.02

\*p<.05. \*\*p<.01. \*\*\*p<.001. †Based on single women only. ‡Includes separated women. §Percentage of federal poverty level. Notes: Ns are unweighted. na=not applicable. ref=reference category for both t-tests and the logistic regression analysis.

married women, who are typically younger than women of other marital statuses, were more likely than married women to cite ambivalence about contraception and fear of parents' finding out they were having sex as reasons for nonuse, but they were less likely to report that ambivalence about pregnancy was a factor in their not having used a contraceptive method.

The survey results support the concern that economic disadvantage makes it harder to obtain contraceptives. Women with incomes lower than 300% of poverty were more likely than the highest-income women to indicate this reason for not having used birth control (11–14% vs. 7%). Women with incomes less than 300% of poverty were less likely than the highest-income women to indicate that ambivalence about pregnancy was a reason they had not been using a contraceptive method (4–5% vs. 6%).

Attitudes toward contraception and knowledge of particular contraceptive methods may vary among women (and

**TABLE 3. Percentage of women obtaining abortions who had not been using a contraceptive method in the month of conception, by reported reasons for nonuse**

Reason	% (N=4,957)
<b>Perceived low risk</b>	<b>33.1</b>
Didn't think I would get pregnant at the time	28.3
Thought I or my partner was sterile	5.8
<b>Concerns about contraceptive methods</b>	<b>32.3</b>
Problems with methods in the past	20.2
Afraid of side effects from methods	13.3
Thought methods would make sex less fun	3.1
Thought methods would be difficult to use	1.1
Thought methods would be too messy	0.6
<b>Unexpected/unwanted sex</b>	<b>26.5</b>
Didn't expect to have sex at the time	25.6
Was forced to have sex	1.3
<b>Ambivalence about contraception</b>	<b>21.5</b>
Never got around to getting a method	14.6
Never thought about using a method	6.7
Didn't use or stopped using a method	2.6
<b>Problems accessing contraception</b>	<b>12.0</b>
Financial†	7.9
Didn't know where to get a method	2.1
Ran out/didn't get method/didn't get refill	2.5
<b>Partner preferences</b>	<b>10.4</b>
Partner didn't want to use a method	7.1
Partner didn't want me to use a method	2.4
Partner wanted me to get pregnant	2.9
<b>Ambivalence about pregnancy</b>	<b>4.7</b>
Thought I might want to get pregnant	4.0
Didn't care if I got pregnant	1.2
<b>Parents</b>	<b>2.4</b>
Afraid my parents would find out I was having sex	2.4

†For example, methods too expensive, insurance ran out, no money. *Notes:* Percentages may add to more than subtotals because women could indicate more than one reason for nonuse. Women who indicated "other," unspecified reasons for contraceptive nonuse (2% of all nonusers) are not shown but are included in the denominator.

men) from different racial and ethnic groups; these differences may, in turn, influence reasons for nonuse. Thirty-two percent of women who were classified as belonging to "other" racial and ethnic groups indicated that ambivalence about contraception was a reason for nonuse—a significantly higher proportion than that of white women (22%). Black women were less likely than white women to indicate that partner preferences were a reason for nonuse (8% vs. 11%), and Hispanic women were more likely than white women to identify fear of parents' finding out they were having sex as a reason for nonuse (5% vs. 2%).

Prior experience with contraceptive methods appears to influence reasons for subsequent gaps in contraceptive use. Women who had last used the injectable or pill—both hormonal methods that require a prescription—were more likely than prior condom users to indicate that concerns about methods and problems accessing methods were reasons for nonuse. Unlike prescription methods, however, condoms are situational, meaning that they are used during the act of sex and require at least one partner to have the method on hand. Prior condom users were more like-

ly than prior pill users to indicate that perceived low risk for pregnancy and unexpected sexual intercourse were reasons for nonuse. Condoms also require the cooperation of a male partner, and prior condom users were more likely than pill and injectable users to indicate that partner preferences had been a reason for nonuse, although prior users of withdrawal were more likely than condom users to indicate that this had been a problem. Women who had never used a contraceptive method, who tend to be younger than ever-users, were less likely than condom users to cite perceived low risk of pregnancy, but more likely to cite concerns about methods, ambivalence about contraception, problems accessing methods and fear of parents' finding out they were sexually active as reasons for nonuse.

### Contraceptive Users

Across all subgroups, women who became pregnant while using a contraceptive method were more likely to have been relying on male condoms than on any other method (Table 5, page 300). Adolescents younger than 18 were more likely than older women to have been using condoms when they became pregnant (35% of all women in this age-group having abortions), while women in their 20s were the most likely of any age-group to have been using the pill (15%). Women aged 30 or older were the most likely group to have been using methods other than the pill or condom (18%). Only 1% of this age-group were relying on long-acting methods; most had been using less-reliable methods—withdrawal, periodic abstinence or other barrier methods (8%, 5% and 4%, respectively—not shown). Married women and those with college degrees tend to be older than others, and these women were more likely than unmarried and less-educated women to have been using methods other than the pill or condom. Never-married women were more likely than others to have relied on the condom, whereas cohabiting women reported the highest levels of pill use in the month they became pregnant.

Poverty status appears to have little effect on the type of contraceptive method used among method users: The proportions of poor women reporting use of the pill, condom and other contraceptive methods were lower than the proportions among the highest-income women. Likewise, women with family incomes within 100–299% of poverty reported use of the pill and methods other than the condom less commonly than did the highest-income women.

White women having abortions were, in general, more likely than others to have practiced contraception in the month they became pregnant: They were more likely than all other women to have used the pill (17% vs. 9–12%), more likely than black and Hispanic women to have used condoms (30% vs. 23–27%) and more likely than black women to have used other methods (15% vs. 10%).

### Problems with Pill and Condom Use

Substantial minorities of women who had become pregnant despite having used the pill or condom indicated that they had used the method perfectly—13% and 14%, respectively

**TABLE 4. Percentage of women obtaining abortions who had not been using a contraceptive method in the month of conception, by selected characteristics, according to reported reasons for nonuse**

Characteristic	Perceived low risk	Method concerns	Unexpected/unwanted sex	Ambivalence about contraception	Access problems	Partner preferences	Ambivalence about pregnancy	Parents
<b>All</b>	<b>33.1</b>	<b>32.3</b>	<b>26.5</b>	<b>21.5</b>	<b>12.0</b>	<b>10.4</b>	<b>4.7</b>	<b>2.4</b>
<b>Age</b>								
<18	38.9	26.0	44.0***	27.9***	12.6	7.2**	5.1	15.5***
18–19	37.5	37.2**	28.3	26.5***	13.3	13.0	4.8	5.9***
20–24	30.7*	32.4	25.8	25.9***	12.5	9.6	3.5***	0.9
25–29	30.0*	34.8**	21.1*	16.5	12.3	10.2	3.7**	0.2
≥30 (ref)	35.2	29.3	26.1	15.3	10.1	11.3	7.1	0.6
<b>Union status</b>								
Married (ref)	29.2	30.6	16.5	17.9	11.6	12.2	8.4	0.0
Cohabiting†	31.7	36.0*	15.8	21.2	14.5	12.1	5.5*	0.7**
Previously married‡	35.9*	32.6	39.8***	13.4*	10.6	9.2	6.3	0.7*
Never-married	34.5*	30.9	32.5***	24.9***	11.1	9.2*	2.6***	4.6***
<b>Poverty status§</b>								
<100%	33.6	34.1	27.7	21.9	14.2***	11.9*	4.2*	2.6
100–199%	32.0	32.9	26.7	22.7	13.8***	10.7	4.6*	2.8
200–299%	31.8	30.6	26.5	20.3	10.8**	8.7	3.8**	2.0
≥300% (ref)	35.0	30.6	24.5	20.4	7.1	9.1	6.3	1.9
<b>Race/ethnicity</b>								
White (ref)	33.9	30.6	27.6	21.5	12.9	11.2	5.3	2.0
Black	31.7	33.0	25.4	18.8	11.4	8.2**	4.2	1.6
Hispanic	32.9	34.5	28.5	22.4	12.6	13.0	3.9	4.5***
Other	36.3	31.0	21.6	32.0***	8.9**	10.2	6.9	2.0
<b>Prior method</b>								
Injectable	28.4***	36.7***	28.5	20.0	18.5***	8.7*	2.7**	0.2**
Pill	28.4***	34.5***	20.5***	20.2	15.9***	7.9***	4.3	0.5*
Condom (ref)	40.6	25.3	31.3	20.1	5.1	12.6	5.6	1.2
Withdrawal	43.3	35.8**	23.5*	19.5	5.1	18.8**	6.1	2.0
None	32.2**	34.1**	31.3	29.3***	12.0***	9.5	5.6	10.1***

\*p<.05. \*\*p<.01. \*\*\*p<.001. †Based on single women only. ‡Includes separated women. §Percentage of federal poverty level. Note: ref=reference category.

(Table 6, page 300).<sup>\*</sup> However, women most commonly cited inconsistent use as the reason for becoming pregnant—76% of pill users and 49% of condom users gave this reason.

Nearly half of pill users had not taken their pill every day or had not taken it at the same time each day because they had forgotten to do so. Among the other reasons for inconsistent use were absence from home and hence lack of pills (16%), depletion of supplies (10%), illness (8%) and lack of inclination to take the pill (2%). Fourteen percent of inconsistent pill users indicated multiple reasons for irregular use (not shown).

The most common reasons women gave for not having used condoms consistently were that they perceived themselves to be at low risk (20%), they lacked a condom (14%) and they did not expect to have sex (13%). Other reasons were women's and partners' lack of inclination to use a condom (6% and 4%, respectively). Eleven percent of inconsistent condom users indicated two or more reasons for not having used condoms regularly (not shown). Some 42% of users reported that they had become pregnant because of condom breakage or slippage.

We used logistic regression to examine characteristics associated with inconsistent pill and condom use, as well as condom breakage and slippage (Table 7, page 301). For each category of problem, the comparison group was women who reported they had used the method perfect-

ly. Black and Hispanic women were more likely than white women to have used the pill inconsistently (odds ratio, 2.1 for each). Women with less than a high school degree were more likely than those with a college degree to have been inconsistent pill users (2.1). The longer a woman had been using the pill, the less likely she was to indicate that inconsistent use was the reason she had become pregnant.

Inconsistent condom use and condom breakage or slippage were predicted by some of the same characteristics. For example, adolescents younger than 18 were less likely than women aged 30 or older to report inconsistent condom use (odds ratio, 0.3) and condom breakage or slippage (0.5). Black women were more likely than white women to report both forms of imperfect use (2.1 for each). Odds were similarly raised for women who intended to have a child or more children. A further predictor of inconsistent condom use was having an income below 100% of poverty, whereas further predictors of breakage or slippage were being unmarried and having less than a high school education.

<sup>\*</sup>The questionnaire directed all barrier method users to answer the series of items about reasons for pregnancy. Because male condoms were the most commonly used method among women having abortions and because problems associated with condom use are, in many ways, distinctly different from those of other barrier methods, we limited the analysis of potential reasons for pregnancy to women who had been using male condoms in the month they became pregnant.

**TABLE 5. Percentage distribution of women obtaining abortions, by contraceptive use and method used in the month of conception, according to selected characteristics**

Characteristic	Using				Not using	Total
	Any method	Pill	Male condom	Other		
<b>All</b>	<b>53.7</b>	<b>13.6</b>	<b>27.6</b>	<b>12.5</b>	<b>46.3</b>	<b>100.0</b>
<b>Age</b>						
<18	51.1	8.8*	35.3***	7.1***	48.9	100.0
18–19	49.6	12.1	28.2	9.4***	50.4	100.0
20–24	53.3	15.4***	27.5	10.3***	46.7	100.0
25–29	54.8	15.0**	26.5	13.3***	45.2	100.0
≥30 (ref)	55.9	12.0	26.1	17.9	44.1	100.0
<b>Union status</b>						
Married (ref)	56.4	13.3	25.6	17.5	43.6	100.0
Cohabiting†	53.4	16.9**	24.0	12.5***	46.6	100.0
Previously married‡	52.4	12.3	26.8	13.4**	47.6	100.0
Never-married	53.2	12.2	30.4**	10.5***	46.8	100.0
<b>Poverty status§</b>						
<100%	47.7	12.7***	25.1**	9.9***	52.3	100.0
100–199%	52.8	12.8***	27.7	12.3**	47.2	100.0
200–299%	54.8	13.2*	28.7	12.9*	45.2	100.0
≥300% (ref)	60.4	15.8	29.3	15.4	39.6	100.0
<b>Race/ethnicity</b>						
White (ref)	61.3	16.7	30.1	14.5	38.7	100.0
Black	48.1	11.4***	26.9*	9.8***	51.9	100.0
Hispanic	48.5	12.4***	23.3***	12.9	51.5	100.0
Other	49.6	9.0***	27.7	12.9	50.4	100.0
<b>Education</b>						
<H.S.	45.8	10.2***	26.2	9.4***	54.2	100.0
H.S. graduate	48.4	12.8	25.2**	10.5***	51.6	100.0
Some college	59.0	15.8	29.4	13.8***	41.0	100.0
College graduate (ref)	63.0	14.7	29.9	18.5	37.0	100.0
<b>Fertility intentions</b>						
Intend no (more) children (ref)	54.4	12.9	27.2	14.3	45.6	100.0
Intend (more) children	53.4	13.5	28.3	11.5**	46.6	100.0
Do not know	53.5	14.6	26.1	12.8	46.5	100.0

\*p<.05. \*\*p<.01. \*\*\*p<.001. †Based on single women only. ‡Includes separated women. §Percentage of federal poverty level. Note: ref=reference category.

**Use of Emergency Contraceptive Pills**

In 2000, 1.3% of women having abortions reported having taken emergency contraceptive pills to prevent the pregnancy. Thirty-five percent of women who had taken emergency contraceptive pills had not used any birth control method in the month they became pregnant. Sixty-five percent of those who had used emergency contraceptive pills had done so as a backup to contraception—11% had been taking the pill,\* 40% had been using condoms (17% reported inconsistent use and 23% breakage or slippage); and 14% had been using other methods.

Although most women who had used emergency contraceptives had done so for backup, they accounted for only a small proportion of women who reported problems

\*The item asking about last method used did not include emergency contraceptive pills as a response category. Rather, all women were asked in a subsequent item whether they had used emergency contraceptive pills to prevent the current pregnancy. Some women who indicated both use of emergency contraception and pill use may have used only emergency contraceptive pills.

†The 95% confidence interval around the 1.3% estimate is 1.0–1.6%, and 13,000–21,000 abortions may have occurred after the use of emergency contraception.

related to condom or pill use: Just 3% of women who had experienced condom breakage or slippage and 2% of inconsistent condom users had relied on emergency contraception as a backup method. Among women who had taken the pill inconsistently, fewer than 1% had also taken emergency contraceptive pills (although 28% had used another backup method, such as condoms or withdrawal).

Trussell and colleagues have estimated that for each pregnancy that occurs after use of emergency contraceptive pills, three pregnancies are prevented.<sup>13</sup> In 2000, 1.3 million abortions were performed in the United States.<sup>14</sup> If 17,000 (1.3%)† pregnancies that ended in abortion occurred after the use of emergency contraceptive pills, approximately 51,000 pregnancies that would have ended in abortion were prevented. By comparison, only 0.1%, or 1,400, of the 1.4 million abortions in 1994 occurred after use of oral emergency contraceptives, and about 4,000 abortions were prevented by their use. The increase in the use of emergency contraceptive pills may account for a significant part of the recent reduction in abortions nationally: The number of abortions in 2000 was 110,000 fewer than in 1994, and an estimated 47,000 more abortions were prevented by emergency contraception in 2000 than in 1994; thus, emergency contraception could account for 43% of the decrease in abortions.

**TABLE 6. Percentages of pill and condom users obtaining abortions, by perceived reasons for pregnancy**

Reason	%
<b>PILL USERS</b>	(N=1,458)
<b>Perfect use/method failed</b>	<b>12.7</b>
<b>Inconsistent use</b>	<b>75.9</b>
Forgot to take pills	45.1
Away from home and didn't have pills	15.9
Ran out of supplies	10.3
Sick	7.7
Didn't think I would have sex again	2.1
Didn't feel like taking pills	1.6
Partner didn't want me to take	0.3
Thought I might want to get pregnant	0.2
Other reason	3.6
<b>Other‡</b>	<b>14.9</b>
<b>CONDOM USERS</b>	(N=2,945)
<b>Perfect use/method failed</b>	<b>13.5</b>
<b>Inconsistent use</b>	<b>49.3</b>
Didn't think I would get pregnant	20.4
Didn't have it with me	14.3
Not expecting to have sex	12.8
Forgot	7.1
Didn't feel like using	5.6
Partner didn't feel like using	3.5
Partner was supposed to bring	1.0
Partner wanted me to get pregnant	1.0
I was forced to have sex	0.5
Thought I might want to get pregnant	0.5
Didn't care if I got pregnant	0.3
Other reason	1.8
<b>Condom broke/slipped</b>	<b>41.6</b>
<b>Other‡</b>	<b>3.2</b>

†Included use with other drugs or antibiotics, absorption problems (vomiting or diarrhea), change of pill or dose, and not finishing first pack. ‡Included incorrect use and use of lambskin condoms and expired condoms. Note: Users could indicate more than one reason for imperfect use.

The commonly accepted estimate that we used—that emergency contraceptive pill use prevents 75% of pregnancies that would have occurred without its use—is based on studies evaluating the Yuzpe regimen of combined oral contraceptives.<sup>15</sup> However, levonorgestrel alone has been shown to be more effective than the Yuzpe regimen.<sup>16</sup> If the levonorgestrel-only product approved for use in the United States in 1999 was widely used during 2000 and 2001, the number of abortions averted may have been even higher than our estimate.

On the other hand, studies have found that the effectiveness of the Yuzpe regimen ranges from 56% to 89%.<sup>17</sup> In addition, some users of emergency contraceptives who became pregnant and had abortions may have used the method incorrectly—for example, after they were already pregnant. Although some studies estimating effectiveness of emergency contraception include women who used the method inappropriately, most use screening criteria to include only women for whom emergency contraception was most likely to be effective (e.g., women who had had only one act of unprotected intercourse and who were not pregnant before taking emergency contraceptive pills). If the proportion of women having abortions in 2000 who became pregnant after *correctly* using emergency contraceptives was actually lower than 1.3%, the number of abortions prevented may be lower than our estimate.

## DISCUSSION AND CONCLUSION

On the basis of our survey findings, we estimate that of the 1.3 million women who underwent induced abortions in 2000, 608,000 had not been using a contraceptive method around the time they became pregnant, 610,000 had been using a method but not consistently or correctly, and 95,000 had thought they were using the method perfectly but became pregnant because of method failure. \* Although these estimates are based solely on women's retrospective reports and perceptions of why they became pregnant, they raise issues that are common among all contraceptive users and thus need to be addressed.

Method failure rates during perfect use are quite low for oral contraceptives and male condoms (0.1–0.5% and 3%, respectively, in the first year of use).<sup>18</sup> Previous research has found that some women overreport compliance with contraceptive regimens,<sup>19</sup> and women having abortions may have overreported perfect method use. Nonetheless, the potential number of unintended pregnancies due to method failure is quite large. In 1995, 10 million women were using the pill, and eight million the condom.<sup>20</sup> If all 10 million women using the pill did so perfectly over the full year, 0.1–0.5%, or 10,000–50,000 users, would have become pregnant. Similarly, if all eight million condom users used the method perfectly for the year, 3%, or 240,000, would have become pregnant. These estimates confirm the validity of the number of abortions that women attributed to method failure during perfect use (95,000). This finding underscores the importance of providing women and their partners with information and services they need to select

**TABLE 7. Odds ratios from logistic regression analyses indicating the likelihood of inconsistent pill and condom use, and condom breakage or slippage, by selected characteristics of women obtaining abortions**

Characteristic	Inconsistent pill use	Inconsistent condom use	Condom breakage or slippage
<b>Age</b>			
<18	0.37	0.34**	0.47*
18–19	0.66	1.02	1.06
20–24	0.76	0.88	0.89
25–29	0.66	1.11	1.15
≥30 (ref)	1.00	1.00	1.00
<b>Union status</b>			
Married (ref)	1.00	1.00	1.00
Cohabiting†	1.29	1.05	1.53*
Previously married‡	0.92	1.22	2.07***
Never-married	1.22	1.06	1.39*
<b>Poverty status§</b>			
<100%	1.50	1.50*	1.33
100–199%	1.35	1.29	1.25
200–299%	1.52	1.11	1.30
≥300% (ref)	1.00	1.00	1.00
<b>Race/ethnicity</b>			
White (ref)	1.00	1.00	1.00
Black	2.14**	2.06***	2.11***
Hispanic	2.12**	1.18	1.12
Other	0.99	1.19	0.63
<b>Education</b>			
<H.S.	2.10*	1.77	2.12*
H.S. graduate	1.46	1.09	1.12
Some college	1.23	0.97	1.14
College graduate (ref)	1.00	1.00	1.00
<b>Fertility intentions</b>			
Intend no (more) children (ref)	1.00	1.00	1.00
Intend (more) children	1.16	2.26***	2.03***
Do not know	1.28	1.21	1.30
<b>Months used††</b>			
	0.99*	1.00	1.01

\*p<.05. \*\*p<.01. \*\*\*p<.001. †Based on single women only. ‡Includes separated women. §Percentage of federal poverty level. ††Number of months of method use was treated as a continuous variable. Notes: Imperfect users are compared with perfect users in the logistic regression analyses. ref=reference category.

methods with which they are most likely to be successful, as well as the continuing need for development of additional method choices.

Inconsistent method use was the most common reason women using the pill or condoms became pregnant. Condom users also had to deal with problems of slippage and breakage, which, although fairly rare, increase the chance of pregnancy. For example, couples in clinical trials comparing the efficacy of latex and polyurethane condoms reported slippage or breakage of 1–4% of the condoms they had used during a six-month period.<sup>21</sup> Among women hav-

\*Pill and barrier method users who indicated that "other reasons" were responsible for their pregnancy were considered imperfect contraceptive users, as were barrier method users who experienced slippage or breakage. The questionnaire did not ask about reasons for pregnancy among the 1% of women who were using long-acting methods or the 10% using nonhormonal, nonbarrier methods. We assumed that similar proportions of women had used the pill and long-acting methods perfectly (12.7%) and that users of nonhormonal, nonbarrier methods had levels of perfect use equal to those of all barrier method users (14.4%, which is slightly higher than the level among male condom users).

ing abortions, 42% of those using condoms became pregnant because of breakage or slippage. Condom breakage or slippage and inconsistent condom use could be reduced by improving knowledge about correct condom use and users' ability to modify their condom use behaviors. Pregnancies resulting from inconsistent pill use could be reduced by couples' increased reliance on condoms as a backup method and by increased adherence to daily oral contraceptive regimens. In particular, women who have not completed high school, those who intend to have a child or more children and black women could benefit from efforts to improve contraceptive use, because women in these groups had an increased likelihood of imperfect pill or condom use.

While most women having abortions who had been contraceptive users were aware that they had not used their method correctly, only a minority had used any backup method. Although we could not estimate the impact of other backup methods, the estimated large impact of emergency contraception on reducing abortion attests to the importance of making sure that all women and their partners have knowledge of and access to this option.

Researchers, policymakers and health care providers often regard women who use contraceptives and those who do not as different populations, each having different needs. To the contrary, it is clear from these women having abortions that most nonusers were prior contraceptive users who had not yet started another method. Furthermore, there was a substantial amount of overlap in women's reasons for inconsistent use and for nonuse.

Nearly one-fifth of all women having abortions—one in three nonusers and one in five condom users—were not using a contraceptive method or were using it inconsistently because of a perceived low risk of pregnancy. Some of these women may have assumed they were having intercourse in a "safe time" in their menstrual cycle; others may have thought their risk of pregnancy was low because they were postpartum or breastfeeding. Furthermore, some may have simply perceived the risk of becoming pregnant to be low, and some may have thought they or their partner was sterile. The frequency of perceived low risk for pregnancy among women who had abortions shows that women and their partners need accurate information about the probability of conception when contraception is not used, the variability of fertility cycles and the importance of consistent contraceptive use.

Twenty-seven percent of contraceptive nonusers and 13% of condom users—or 16% of all women having abortions—became pregnant because they were not expecting to have sex. Ambivalence about contraception had been experienced by 22% of nonusers, and small proportions of pill and condom users indicated that they did not care or they "didn't feel like" using their method. Very few women indicated that ambivalence about childbearing intentions had directly influenced their contraceptive use, but among women who had used condoms in the month they became pregnant, those who intended to have a child or more children were more likely than those who did not to report in-

consistent condom use or condom breakage or slippage.

Substantial levels of unexpected sex, ambivalence about contraception and the association of fertility intentions with imperfect condom use all reflect the high degree of ambivalence toward sexuality that characterizes the United States.<sup>22</sup> Women and men need more opportunities and forums for discussing issues such as whether and when sexual intercourse should occur in a relationship, methods of pregnancy prevention and decision-making about appropriate timing of childbearing. The increased emphasis in public school sexuality education programs and in other public education efforts on abstinence as the only option for unmarried people suggests that fewer, rather than more, young women and men will be exposed to accurate information about sexuality issues in the coming years. In 1999, for example, 40% of sexuality education teachers in secondary public schools either taught that contraceptive methods and condoms are ineffective or did not cover them at all.<sup>23</sup> Many adults continue to lack venues for learning about and discussing relationships, sexuality and contraception.

Some women having abortions had not been using contraceptives because they had problems accessing methods and services. Difficulties getting prescriptions refilled also resulted in inconsistent pill use. Making it easier for women and their partners to obtain contraceptive methods could alleviate these problems and, possibly, motivate some women who use less-effective methods to adopt more effective ones. Whereas some higher-income women reported access problems, poor and low-income women were much more likely to do so. The proportion of women of reproductive age covered by Medicaid has decreased, from 13% in 1994 to 9% in 2000, while the proportion without health insurance has fluctuated between 18% and 20% during the same period.<sup>24</sup> At the same time, funding for free and low-cost contraceptive services and supplies for low-income women through Title X has not increased when adjusted for inflation.<sup>25</sup> Clearly, more efforts need to be made to provide health insurance coverage for poor and low-income women (and men), as well as increased funding for family planning services. Family planning and other reproductive health services need to provide women and their partners with information about and access to a wide range of methods so they can choose, and receive, the ones best suited to their current lifestyles, including newly available and highly effective methods.

Substantial proportions of adolescents who were not using contraceptives—particularly of those younger than 18—indicated that fear of their parents' finding out they were sexually active was a barrier to contraceptive use. Making sure that adolescents continue to have access to confidential reproductive health care services and increasing their awareness of these services are likely to result in greater contraceptive use and fewer unintended pregnancies.

Some women having abortions indicated that their partners' expectations and desires had prevented them from using a method or from using a method consistently. Efforts to increase knowledge about fertility and contrac-

tion and to improve access to reproductive health services need to include men as well as women. Women who rely on condoms, withdrawal and periodic abstinence require the cooperation of their partners to avoid becoming pregnant, and partners can influence women's use of "female" methods.

Women who want to avoid or delay childbearing must expend time, effort and, often, money to prevent unintended pregnancy. While the overwhelming majority of women at risk of pregnancy successfully use contraceptives, efforts to support and improve use levels and use-effectiveness need attention.

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