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Contraceptive Efficacy Among Married Women 15-44 Years of Age in the United States, 1970-73¹

In the 3-year period 1970-73, 7.3 percent of U.S. married women who sought to delay their next wanted child became unintentionally pregnant while using contraception within 1 year following initiation of use (table 1). Only 3.7 percent of those who had decided to terminate childbearing failed to achieve that goal during the first year of contraception after deciding to prevent future births. While these rates may imply acute problems for the individuals who did experience contraceptive failure, they are an indicator of the high degree of effectiveness of contraceptive use considered in the aggregate.

The data presented here are extracted from a forthcoming report on contraceptive use effectiveness in the United States. They are based on Cycle I of the National Survey of Family Growth (NSFG), conducted by the National Center for Health Statistics. The NSFG was designed to provide information about fertility, family planning intentions and activity, and other aspects of maternal and child health which are closely related to childbearing. Data on each of these topics were collected in personal interviews with approximately 9,800 women aged 15-44 years who had ever been married or who had children of their own living in the household. Interviews were conducted between July 1973 and February 1974; the midpoint was Sep-

Table 1. First year contraceptive failure rates per 100 married women aged 15-44 years, by whether contraception was intended to prevent or delay pregnancy, with corresponding standard errors: United States, 1970-73

Intention of contraception	Failure rate per 100 women	Standard error ¹
Prevent	3.7	0.5
Delay	7.3	0.7

¹These are provisional estimates of standard errors. See Technical Notes.

tember 13, 1973. Respondents were selected by a multistage, area probability, cross-sectional sample of households in the conterminous United States. It should be emphasized that the statistics reported here do not pertain to a sample of all contraceptors but rather to a sample of women who were both married and contraceptive users for at least 1 month during the 3-year period, July 1, 1970, through July 1, 1973.

The contraceptive failure rates for the various methods reported here are the probabilities of a contraceptive failure during the first year a method was used. They were computed using a multiple-increment, multiple-decrement life table procedure. A contraceptive failure occurred if the onset of pregnancy was reported as occurring prior to the termination of contraception. For the calculation of use effectiveness during the 3-year period prior to the survey, all intervals of contraceptive use (including sterilization) occurring during a continuous marriage were considered. It should be kept in mind that these rates of use effectiveness of contraceptive methods reflect patient misuse as well as method failure.

¹This report was prepared by Kathleen Ford, Ph.D., Division of Vital Statistics. The information in this report was extracted from the report "Contraceptive Efficacy Among Married Women in the United States, 1970-1973," by Barbara Vaughan, James Trussell, Jane Menken, and Elise F. Jones, which will be published in Series 23 of the *Vital and Health Statistics* series.

The particular method of contraception has long been observed to affect failure rates. Sterilization was by far the most successful method, with no failures recorded (table 2). The failure rate for the pill was 2.0, representing 2.0 failures per 100 women in the first year of use. Failure rates for the IUD (4.2), condom (10.1), and diaphragm (13.1) follow in order of decreasing use effectiveness.

These rates are standardized by the intention of use (those seeking to delay their next wanted birth and those seeking to prevent any further births). Since intention has been found to influence success with a method and different methods attract varying proportions of couples seeking to delay or prevent the next pregnancy, such standardization was necessary for proper comparison of method failure rates.

Table 2. First year contraceptive failure rates per 100 married women aged 15-44 years standardized by intention of contraception, by type of contraceptive used, with corresponding standard errors: United States, 1970-73

Type of contraceptive used	Failure rate per 100 women	Standard error ¹
Sterilization.....	0.0	-
Pill.....	2.0	0.4
IUD.....	4.2	1.2
Condom.....	10.1	1.7
Foam, cream, or jelly.....	14.9	2.1
Diaphragm.....	13.1	3.8
Rhythm.....	19.1	4.0
All other methods.....	10.8	2.9

¹ These are provisional estimates of standard errors. See Technical Notes.

TECHNICAL NOTES

DESIGN OF THE SURVEY: The National Survey of Family Growth (NSFG), initiated in 1971, was designed to provide data on fertility, family planning, and related aspects of maternal and child health. Fieldwork for Cycle I was carried out by the National Opinion Research Center in 1973 and early 1974, with September 13, 1973, as the midpoint of the interviewing.

A multistage probability sample of women in the noninstitutional population of the conterminous United States was used. Approximately 33,000 households were screened to identify the sample of women who would be eligible for the NSFG, i.e., women aged 15-44 years who were either currently married, previously married, or never married but with natural children presently living in the household. In households with more than one eligible woman, a random procedure was used to select only one to be interviewed. Since the interviews were always conducted with the sample person, the term "respondent" is used throughout this report as synonymous with sample person. Interviews were completed for 3,856 black women and for 5,941 women of other races. A detailed description of the sample design is presented in "National Survey of Family Growth, Cycle I:

Sample Design, Estimation Procedures, and Variance Estimation," Series 2, No. 76 in the *Vital and Health Statistics* series.

The interviews were highly focused on the respondents' marital and pregnancy histories, on their use of contraception and the planning status of each pregnancy, on their intentions regarding the number and spacing of future births, on maternity and family planning services, and on a broad range of social and economic characteristics. While the interviews varied greatly in the time required for their completion, they averaged about 70 minutes. Quality control procedures were applied at all stages of the survey. These included a verification of listing completeness with unlisted dwelling units being brought into the sample, a preliminary field review of completed questionnaires for possible missing data or inaccurate administration, a 10-percent sample recheck of all households screened in the survey, observation of interviews in the field, and an independent recoding of a 5-percent subsample of completed interviews.

RELIABILITY OF ESTIMATES: Since the statistics presented in this report are based on a sample, they may differ somewhat from the figures that would have been obtained if a com-

plete census had been taken using the same questionnaires, instructions, interviewing personnel, and field procedures. This chance difference between sample results and a complete count is referred to as sampling error. In addition, the results are subject to nonsampling error due to respondent misreporting, data processing mistakes, and nonresponse. It is very difficult, if not impossible, to obtain accurate measures of nonsampling errors. These types of error were kept to a minimum by the quality control procedures and other methods incorporated into the survey design and administration.

Sampling error, or the extent to which samples may differ by chance from a complete count, is measured by a statistic called the standard error of the estimate. The standard errors presented in this report are provisional estimates based on variances calculated for other life table estimates from this survey.

The chances are about 68 out of 100 that an estimate from the sample would differ from a complete census by less than the standard error. The chances are about 95 out of 100 that the differences between the sample estimate and a

complete count would be less than twice the standard error.

DEFINITIONS OF TERMS

Contraceptive use effectiveness.—In this report, use effectiveness is defined as the effectiveness of a method when it is being used. *Contraceptive failure*, the type of method termination which was the focus of this study, occurred if the date of stopping contraception came after the month a pregnancy began, and the respondent said she had not stopped at the time she became pregnant. Periods of time when the respondent was not married as well as periods of time when the respondent was married but reported that she was not having intercourse were excluded from the calculations.

Intention.—A method use interval was classified as a *delay* interval if the woman's motive for using a contraceptive was to delay her next pregnancy. If her intentions were to have no more children, the interval was classified as a *prevent* interval.

SYMBOLS

Data not available—————	---
Category not applicable—————	...
Quantity zero—————	-
Quantity more than 0 but less than 0.05———	0.0
Figure does not meet standards of reliability or precision—————	*

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