

Are All Contraceptive Failures Unintended Pregnancies? Evidence from the 1995 National Survey of Family Growth

By James Trussell, Barbara Vaughan and Joseph Stanford

Context: *The incidence of unintended pregnancy has long been used as a primary indicator of the state of reproductive health. However, the definition—and therefore the measurement—of this indicator has been elusive.*

Methods: *Data from the 1995 National Survey of Family Growth (NSFG) were used to compare levels of unintended pregnancy among contraceptive users based on two definitions—the standard definition based on women's reports of contraceptive failure, and the NSFG definition based on pregnancy timing (wanted then, wanted later, or not wanted then or in the future). An attitudinal scale was used to examine women's feelings about their unintended pregnancy.*

Results: *Of pregnancies classified as contraceptive failures under the standard definition, only 68% were unintended pregnancies—94% of those ending in abortion and 60% of those ending in birth. Just 59% of women with a contraceptive failure classified as an unintended pregnancy reported feeling unhappy or very unhappy about their pregnancy, while 90% of those with a failure classified as an intended pregnancy reported being happy or very happy.*

Conclusions: *Measures of wantedness based on women's feelings about their pregnancy may correlate more closely with important pregnancy outcomes than do traditional measures of intendedness.*

Family Planning Perspectives, 1999, 31(5):246–247 & 260

Unintended pregnancies occur all too commonly in the United States. Although their impact on individual women or couples varies, such pregnancies have been linked to a number of social and health problems, such as poor birth outcomes.¹ However, despite the frequency and the consequences of unintended pregnancy, its definition—and therefore its measurement—remains elusive. Efforts at definition generally rely on factors such as pregnancy outcome, the woman's retrospective report of her intentions at the time she became pregnant, and the use or nonuse of contraceptive methods.

Clearly, not all unintended pregnancies are contraceptive failures, because unintended pregnancies can and do occur when no contraceptive is used; indeed, almost half (47%) of unintended pregnancies occur to women who are not using a method when they conceive.² On the other hand, one would assume that all contraceptive failures

are unintended pregnancies, because women who want to become pregnant are unlikely to be practicing contraception. Indeed, the standard definition of contraceptive failure is derived from clinical trials of contraceptive efficacy, in which women are classified as exposed to the risk of unintended pregnancy as long as they consider themselves to be users of a method, whether or not they are using it consistently and correctly. Thus, any pregnancy occurring to a self-reported method user is classified as a contraceptive failure and, by implication, as an unintended pregnancy.

In the National Surveys of Family Growth (NSFG) conducted by the National Center for Health Statistics (NCHS), however, the intention status of reported pregnancies is based on a woman's retrospective report of her reproductive desires. Each woman is asked to think back to the time she became pregnant. If a woman says that, at the time she became pregnant, she did not want any (more) children, that pregnancy is classified as unwanted. If the woman reports instead that she did want a child in the future, she is asked whether

that pregnancy occurred too soon, too late or at about the right time. Pregnancies that occurred too soon or were not wanted at all are classified as unintended, while those that occurred at about the right time or too late are considered intended.³

This system of classification does not consider whether women were still practicing contraception when they became pregnant. In fact, in our earlier analysis of contraceptive failure based on 1995 NSFG data, only 68% of contraceptive failures are classified as unintended pregnancies—94% of those ending in induced abortion, but only 60% of those ending in birth.⁴ A substantial minority of women who became pregnant while using a contraceptive method said during their survey interview that when the pregnancy occurred they had thought that its timing was about right.

That a pregnancy can be classified as intended even though it occurred during contraceptive use raises questions about the meaning of pregnancy intention as measured in the NSFG. At the very least, this discrepancy highlights the fact that in the NCHS classification scheme, intended pregnancy is the residual category: An intended pregnancy is one that is not unintended, rather than one that is deliberately intended. If, in fact, women's reports of contraceptive use are accurate,* the implication

James Trussell is professor of economics and public affairs, associate dean of the Woodrow Wilson School of Public and International Affairs and a faculty associate of the Office of Population Research, Princeton University, Princeton, NJ. Barbara Vaughan is senior technical staff member of the Office of Population Research. Joseph Stanford is assistant professor in the Department of Family and Preventive Medicine, University of Utah, Salt Lake City, UT. This work was supported by a grant to Princeton University from the Henry J. Kaiser Family Foundation. The creation of the analysis files on which these estimates are based was supported in part by a subcontract from The Alan Guttmacher Institute to Barbara Vaughan under National Institutes of Health grant HD31646. The authors are grateful to Stanley Henshaw, Linda Peterson, Elizabeth Raymond and Charles Westoff for helpful comments.

*There is reason to believe that the dates of contraceptive use and the dates of conception in the NSFG may be subject to reporting error, which could lead to the misattribution of contraceptive failures. (Source: reference 4.)

of the discrepancy may be more serious and fundamental, because it raises doubts about the validity of pregnancy intention when constructed from retrospective reports.

This issue can be explored further. In the 1995 NSFG, women were asked to rate their feelings about each pregnancy on a 10-point scale, with one being very unhappy, five being neutral and 10 being very happy. Results for all contraceptive failures in our prior analysis are shown in Table 1. Women with contraceptive failures classified as intended pregnancies almost never reported being unhappy or very unhappy with that pregnancy, and 90% said they were happy or very happy. These results are consistent with one another, but it is still not clear why these women were practicing contraception. On the other hand, although a majority (59%) of women with contraceptive failures classified as unintended pregnancies reported being unhappy or very unhappy, 25% said they were happy or very happy.

The data from the 1995 NSFG allow us to examine the alternative implications of these definitions of unintended pregnancy. First, we calculate how estimates of unintended pregnancies would be affected if we classified all conceptions that occur during contraceptive use as unintended. Henshaw calculated that 3.04 million unintended pregnancies occurred in 1994 by summing estimates of unintended births, induced abortions, and spontaneous abortions that would have resulted in induced abortions or unintended births.⁵ His estimate of the number of unintended births (1.2 million) was based on the NSFG. Because abortions are underreported in the NSFG,⁶ his estimate of the number of unintended pregnancies ending in abortion (1.4 million) was taken from an Alan Guttmacher Institute survey of abortion providers; he assumed that 100% of abortions resulted from unintended pregnancies. His estimate of the number of unintended pregnancies ending in spontaneous abortions (about 387,000) was computed as

Table 1. Percentage distribution of women who experienced a contraceptive failure, by their feeling about the pregnancy, according to NSFG intention classification

Feeling about pregnancy	Intended (N=175)	Unintended (N=391)
Very unhappy	0.5	36.3
Unhappy	0.7	22.6
Neutral	8.4	15.8
Happy	33.1	18.8
Very happy	57.3	6.5
Total	100.0	100.0

Note: Women rated their feeling about the pregnancy on a 10-point scale, with 5 being neutral. We have collapsed the scale into five categories: 1, 2-4, 5, 6-9 and 10.

20% of the number of unintended births plus 10% of the number of abortions. If all contraceptive failures were considered unintended pregnancies, his estimate of the number of unintended births, and hence the number of unintended conceptions ending in spontaneous abortions, would be too low. Henshaw estimated that 48% of women with unintended births experienced a contraceptive failure (approximately 584,000 births). Given our results, the actual number of unintended births conceived during contraceptive use (about 973,000) would be 67% (1/0.60) higher than Henshaw's estimate. Thus, the current estimate of the incidence of unintended pregnancy (3.0 million)⁷ would rise to 3.5 million, and the fraction of all pregnancies that are unintended would increase from 48% to 55%.

However, if one accepts the validity of the NSFG measurement of pregnancy intention, approximately one-third of contraceptive failures are intended pregnancies. As the life-table contraceptive failure rates shown in Table 2 demonstrate, the 12-month probability of contraceptive failure based on the standard definition is 21% higher for the pill, 38% higher for the condom and 40% higher for all reversible methods than is the probability of failure based on the NSFG definition. These findings suggest an ambivalence about avoiding pregnancy that is likely to be associated with imperfect use of contraceptives and the consequently higher risk of pregnancy during typical use.

These results indicate that further work is needed to understand alternate conceptualizations and measurement strategies for pregnancy intention. The demographic conceptualization of intendedness of pregnancy used in the NSFG is based on the ideas of anticipated childbearing and pregnancy timing, and differs substantially from the clinical definition of planning or not planning pregnancy based on use of contraceptives. Our findings are consistent with research that suggests that women and couples have a complex mix of traits, desires and intentions resulting in a spectrum of behaviors aimed at preventing or achieving pregnancy that go beyond simply practicing or not practicing contraception.⁸

Further, in these data, both the NSFG measurement of intendedness and the reported use of contraceptives differ from a psychological measure of wantedness. A growing body of research suggests that planning or intending pregnancy and wanting pregnancy are two distinct phenomena,⁹ and that the concept of planning pregnancy is not meaningful to some women.¹⁰ Further, new measures of want-

Table 2. Percentage of women experiencing a contraceptive failure, by method, duration of use and definition of contraceptive failure, 1995 NSF

Method and duration	Definition of failure	
	Standard	Unintended pregnancy
All reversible methods		
6 months	5.5	4.0
12 months	9.4	6.7
24 months	16.7	11.2
Pill		
6 months	3.0	2.4
12 months	6.9	5.7
24 months	12.4	8.6
Condom		
6 months	5.4	4.1
12 months	8.7	6.3
24 months	17.6	12.8

edness based on feelings about pregnancy may correlate more closely with important pregnancy outcomes than do traditional measures of intendedness.¹¹ Given that reducing unintended pregnancy is an explicit Health of the Nation objective,¹² it is important that we develop a greater understanding of these alternate concepts of pregnancy intention, the best intention measures for predicting pregnancy outcomes, the relationship of these concepts to women's and couple's lives, values and choices, and how women and couples integrate the use of contraceptives with their reproductive desires and intentions.

References

- Brown S and Eisenberg L, eds., *The Best Intentions: Unintended Pregnancy and the Well-Being of Children and Families*, Washington, DC: National Academy Press, 1995.
- Henshaw SK, Unintended pregnancy in the United States, *Family Planning Perspectives*, 1998, 30(1):24-29 & 46.
- Abma JC et al., Fertility, family planning, and women's health: new data from the 1995 National Survey of Family Growth, *Vital and Health Statistics*, 1997, Series 23, No. 19.
- Trussell J and Vaughan B, Contraceptive failure, method-related discontinuation, and resumption of use: results from the 1995 National Survey of Family Growth, *Family Planning Perspectives*, 1999, 31(2):64-72 & 93.
- Henshaw SK, 1998, op. cit. (see reference 2).
- Fu H et al., Measuring the extent of abortion underreporting in the 1995 National Survey of Family Growth, *Family Planning Perspectives*, 1998, 30(3):128-133 & 138.
- Henshaw SK, 1998, op. cit. (see reference 2).
- Miller WB and Pasta DJ, Behavioral intentions: which ones predict fertility behavior in married couples? *Journal of Applied Social Psychology*, 1995, 25(6):530-555.
- Miller WB, Reproductive decisions: how we make them and how they make us, in: Severy LJ, ed., *Advances in Population*, Vol. 2, London: Jessica Kingsley Publishers Ltd., 1994, pp. 1-27; and Fischer RC et al., Exploring the concepts of intended, planned, and wanted pregnancy, *Journal of Family Practice*, 1999, 48(2):117-122.

(continued on page 260)

Are All Contraceptive Failures...

(continued from page 247)

10. Moos MK et al., Pregnant women's perspectives on intendedness of pregnancy, *Women's Health Issues*, 1997, 7(6):385-392.

11. Brown S and Eisenberg L, 1995, op. cit. (see reference 1); Sable MR et al., Pregnancy wantedness and adverse pregnancy outcomes: differences by race and Medicaid status, *Family Planning Perspectives*, 1997, 29(2):76-81; and Sable MR and Wilkinson DS, Pregnancy intentions, pregnancy attitudes, and the use of prenatal care in Missouri, *Maternal and Child Health Journal*, 1998, 2(3):155-165.

12. U.S. Department of Health and Human Services (DHHS), *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*, DHHS publication (PHS) 91-50213, Washington, DC: DHHS, 1991.