Happiness About Unintended Pregnancy And Its Relationship to Contraceptive Desires Among a Predominantly Latina Cohort

CONTEXT: Women frequently profess happiness about unintended pregnancies; such incongruence is associated with use of less effective contraceptive methods and inconsistent or incorrect method use. Yet, the methods women use may differ from those they desire.

METHODS: Data on 578 women were drawn from a prospective survey of postpartum women aged 18–44 recruited from three hospitals in Texas between 2012 and 2014. Jonckheere-Terpstra tests were used to compare women's feelings about a future pregnancy with their childbearing intentions. Fisher-Freeman-Halton tests compared distributions of contraceptive methods currently used and desired by women who professed happiness about a future unintended pregnancy, as well as distributions of desired methods by women's reported feelings.

RESULTS: The proportion of women who reported happiness about a future pregnancy was 59% among those intending to wait two or three years for another child, 46% among those intending to wait four or more years, and 36% among those intending to have no more children. Among women who professed happiness, a greater proportion desired to use a highly effective contraceptive method than were currently using one (72% vs. 15% among those intending no more children; 55% vs. 23% among those intending to wait at least four years; and 36% vs. 10% among those intending to wait two or three years). Across intention categories, the types of methods desired did not differ by whether women professed happiness or unhappiness.

CONCLUSIONS: Women who profess happiness about a future unintended pregnancy may nonetheless desire highly effective contraceptive methods.

Perspectives on Sexual and Reproductive Health, 2015, 47(2):99-106, doi:10.1363/47e2215

Unintended pregnancy is a persistent public health issue in the United States: An estimated 51% of pregnancies each year are unintended—a figure that has changed little since 1994.1 Unintended pregnancies are associated with an increased risk of adverse maternal and neonatal outcomes.2 Yet, much debate still surrounds the measurement and interpretation of women's pregnancy intentions, particularly in relation to their feelings about pregnancy.^{3,4} According to Trussell et al.'s examination of contraceptive failures reported in the 1995 National Survey of Family Growth (NSFG), women frequently professed happiness about pregnancies that they classified as unintended.5 The NSFG relies on women's retrospective reports of their pregnancy intentions and feelings (i.e., reports made after the pregnancy or birth has already occurred), which are susceptible to recall bias.6 However, the same incongruence between intentions and feelings has been demonstrated with data measured prospectively (i.e., based on a hypothetical future pregnancy or birth).7 This incongruence has been found to be more common among Latinas than among non-Latinas.8,9

In the current literature, happiness about pregnancies that would be or were unintended is commonly interpreted as a reflection of ambivalence about avoiding conception.10-12 Yet, an alternative explanation is that

By Abigail R.A. Aiken

Abigail R.A. Aiken is postdoctoral research associate, Office of Population Research, Princeton University, Princeton, NJ.

intentions and feelings are related but distinct concepts: That is, women may be highly motivated to avoid conception and, at the same time, would feel happy about the prospect of a pregnancy.7,13,14

Going a step further, the relationship between motivation

to avoid pregnancy and incongruent intentions and feel-

ings is often examined by looking at the type of contracep-

tive method being used and the level of correct use. Indeed,

there is evidence that women's ambivalence about avoiding

pregnancy is associated with their inconsistent or incorrect

contraceptive use or their use of less effective methods. 10,15

The implicit assumption, however, is that women are using

the method they desire and that they have the ability to use

it effectively. In fact, women's choice of method and the

degree to which they are able to use it correctly are shaped

and limited by myriad individual and structural factors,

including education, age, ethnicity and relationship sta-

tus, as well as the influence of friends, family and social networks. 16-19 For many women, method choice is limited

by financial barriers, such as lack of insurance coverage or

inability to afford a copay; logistical barriers, such as inabil-

ity to find reliable transportation to a clinic or having to

lose pay for taking time off to attend; or provider barriers, such as prevailing but outdated clinical practice norms. 20,21 Moreover, many women may find user-dependent methods

Volume 47, Number 2, June 2015

(e.g., condoms, the pill) difficult to use correctly because they are dissatisfied with certain aspects,²² such as interference with sexual function,²³ negative side effects²⁴ or non-acceptance by intimate partners.²⁵

Thus, for some women, use of less effective contraceptive methods or imperfect contraceptive use may reflect their inability to use the method they truly desire—that is, the one they would use if they could obtain any method they wanted. According to a study from the Contraceptive CHOICE Project, uptake of highly effective, long-acting reversible contraceptive (LARC) methods (i.e., the IUD and implant) was high among women who were offered such methods free of charge with appropriate counseling;26 this finding provides some insight into the effect that financial barriers have on women's ability to use the method of their choice. To our knowledge, only two studies measuring contraceptive use have inquired about the methods women desire to use: one, based in Brazil, that focused on postpartum sterilization;²⁷ and the other in Texas, from which data for this study are drawn.²⁸ If women with incongruent intentions and feelings desire to use methods that are more effective than the ones they are using, one might less readily consider them ambivalent about avoiding conception. Furthermore, if women with incongruent intentions and feelings desire methods similar to those desired by women with congruent intentions and feelings (i.e., who would be unhappy about an unintended pregnancy), one might conclude that they have similar motivations to avoid pregnancy, despite very different feelings.

In this study, data from a cohort of predominantly Latina women recruited postpartum from three hospitals in Texas were analyzed to determine the prevalence of incongruent pregnancy intentions and feelings, examine which contraceptive methods women with incongruent intentions and feelings are using and which they desire, and assess whether the methods desired by women differ by whether they have incongruent or congruent pregnancy intentions and feelings.

METHODS

Data

Data were drawn from the Postpartum Contraception Study, which included a cohort of 803 postpartum women recruited from three Texas hospitals between April 2012 and August 2014: half (403) from St. David's Hospital, in Austin, and half (400) from University Medical Center and Las Palmas Hospital, both in El Paso. Hospitals were chosen to obtain a mix of publicly and privately insured participants and to allow for differences in contraceptive provision by policy context, given that levels and sources of public funding for family planning vary between the two cities.* Eligible

participants were 18–44-year-olds who lived in the United States within 50 miles of the hospital from which they were recruited, had delivered a healthy singleton infant whom they expected to take home upon discharge and intended not to have additional children for at least two years. Participants gave signed informed consent; human subjects approval for this study was obtained from the institutional review boards at the University of Texas at Austin, the University of Texas at El Paso and the participating hospitals.

In-person interviews in either English or Spanish were conducted with women soon after delivery; follow-up interviews took place by telephone three, six and nine months postpartum. Participants were compensated \$30 for completing the initial interview and \$15 for completing each follow-up. Further details regarding the study can be found elsewhere.²⁸

For the analysis presented here, data from only the 578 women who at the six-month interview had not been sterilized, become pregnant or been lost to follow-up were used; the follow-up rate at six months was 89%. Women's prospective feelings about a pregnancy in the next three months were not elicited until six months postpartum, to allow time for childbearing preferences to stabilize following delivery. The contraceptive methods women were using and desired were also assessed at this time, so that women's answers were unlikely to be affected by breast-feeding and abstinence from intercourse following delivery, and that most women were likely to have obtained their main method of postpartum contraception at their postpartum checkup. In addition, knowledge gained about methods at the postpartum checkup could be taken into account with respect to method desires.

Variables

• Childbearing intentions and feelings. Women were asked if they planned to have more children in the future; response options were "yes," "no" and "don't know." Those who intended to have more children were asked when they would like to have another child; response options were "one year from now," "two years from now," "three years from now," "four or more years from now" and "don't know." Happiness about a future pregnancy was measured by asking "How would you feel if you became pregnant in the next three months?" Responses were recorded on a four-item ordinal scale of "very happy," "somewhat happy," "somewhat upset" and "very upset"; women could also answer "don't know." These question constructs followed those employed in the Border Contraceptive Access Study, which involved a study population with similar demographic characteristics.7 Responses to the intentions question measured the timing of future pregnancies to the nearest year and were consistent with the responses spontaneously given by the vast majority of women in the sample. For the small number of women whose answers fell between years, responses were rounded to the nearest year.

To ensure the validity of these constructs for accurately measuring women's pregnancy intentions and feelings, and

^{*}In both cities, public insurance included Medicaid and Emergency Medicaid. Medicaid covers the costs of delivery and postpartum care—including contraception—up to 60 days postdelivery. Emergency Medicaid covers the cost of delivery—but not postpartum contraception—for uninsured women who do not qualify for Medicaid, including undocumented immigrants and legal immigrants with less than five years of legal residence.

to further explore women's own perspectives on the factors underlying intentions and feelings, in-depth interviews were conducted with a subsample of 27 respondents.²⁹ Findings indicated that women made a clear distinction between the questions on intentions and those on feelings, and understood that the former asked about the timing of their anticipated childbearing and the latter asked about their emotional response to a hypothetical future pregnancy.

• Current and desired methods. Women were asked "Are you using a birth control method now? Please include any methods that your husband or partner is using." Those who answered "yes" were then asked "What birth control method or methods are you using?" To account for the full range of ideas and opinions on what constitutes birth control, the follow-up probe "Are you using any of the following?" was included for women who answered "no"; response options were abstinence (defined as not having sex), condoms, exclusive breast-feeding or lactational amenorrhea, rhythm, CycleBeads, natural family planning or fertility awareness, withdrawal and none of the above. Only women who answered "none of the above" were classified as using no method, and this categorization applied to only four women in the sample, none of whom were trying to get pregnant. The very small number of women who reported dual method use were classified as using the method that is more effective during typical use, 30 as they were too few to include as a separate category.

A panel of questions was designed to capture women's desired method of contraception. The initial question asked "If you could use any birth control method you wanted, including methods your husband or partner could use, what birth control method would you like to be using three months from now?"; at the six-month follow-up, "three months from now" referred to nine months postpartum, the same time period women were asked about in relation to their feeling about pregnancy. Because desired method is a relatively new concept, 15 in-depth interviews were conducted to test the question and gain a sense of how women would answer. These interviews highlighted two key issues. First, women often initially answered with a method that they knew they could access, rather than with their ideal method. Second, not all methods automatically fell within women's perceptions of what counts as "birth control," particularly permanent methods. Indeed, many women told us of their difficulties accessing desired postpartum sterilization when this issue was specifically explored. To allow for these considerations, the initial question was followed by additional questions. Women were asked whether they left out any methods because they are too expensive or not covered by insurance, and if so, which. And women who did not intend to have any more children were asked whether they would have liked to have a tubal ligation in the hospital right after their recent delivery. Each woman's desired method was categorized according to the most effective method mentioned across the set of questions. Further details can be found elsewhere.²⁸

Current and desired methods were then grouped into a hierarchy constructed according to method efficacy.³¹ The lowest tier, "less effective methods," comprised methods with a typical-use failure rate of 18 or more pregnancies per 100 women per year: condoms, withdrawal, spermicides, sponges, fertility-based awareness methods (including rhythm) and abstinence. The middle tier, "hormonal methods," included methods with a failure rate of 6-12: combined and progestin-only contraceptive pills, the injectable, the vaginal ring and the patch.* The top tier, "highly effective methods," consisted of methods with a failure rate of less than one: the implant, IUDs (copper and hormonal) and permanent methods (female and male sterilization). For desired methods, this top tier was split between reversible and permanent methods to allow for possible differences in childbearing intentions by method permanence.

• Social and demographic characteristics. Data on women's age, education, ethnicity, parity and income were collected at baseline; relationship status and health insurance status were ascertained at baseline and were tracked in all follow-up interviews.

Analysis

Women's pregnancy intentions were compared with their feelings about a pregnancy in the next three months. To allow for differences between women for whom another pregnancy would be mistimed and those for whom it would be unwanted, the sample was divided into five groups according to fertility intentions: intends to have no more children, intends to wait for at least four years to have another child, intends to wait for two or three years, intends to wait for one year and does not know intention. To assess the gradient of incongruent intentions and feelings in the sample, the distributions of women by feeling about an unintended pregnancy were compared across the intention groups using a Jonckheere-Terpstra test, which examines differences among multiple independent ordered samples from the same population.³²

The remaining analyses excluded women who intended to not have more children for one year, those who did not know their childbearing intention and those who did not know how they would feel about a pregnancy in the next three months. For women who intended to wait a year, a pregnancy in the next three months would not have been unintended, whereas women who did not know their intention were beyond the scope of this analysis. For women in the remaining three intention groups who said that they would be somewhat or very happy about a pregnancy in the next three months, the contraceptive methods being used at six months postpartum were compared with the methods desired. These comparisons used Fisher-Freeman-Halton tests, which test for associations between categorical variables in contingency tables with multiple dimensions.33

Volume 47, Number 2, June 2015 101

^{*}No women in the study were using the diaphragm.

Finally, within each intention group, the distribution of methods desired by women who professed happiness about a pregnancy in the next three months was compared with that of women who professed unhappiness about one. Fisher-Freeman-Halton tests were used to examine the association between feelings and method desires across the entire distribution of methods within each intention group. Chi-square tests were used to compare the proportion of women who would be happy about a pregnancy and the proportion who would be unhappy within each method tier. All analyses were performed using Stata version 12.0. Findings were considered statistically significant at an alpha level of .05.

RESULTS

Overall, the mean age of women in the sample was 27. The majority were Latina (74%—Table 1) and married or cohabiting (79%). Similar proportions of women reported having one, two and three or more children. One-third of women had a household income of less than \$10,000 per year, and three in 10 had not completed high school. Three in four women had public insurance at the time of delivery;

however, at six-months postpartum, only 17% were publicly insured, and 54% were uninsured. Although 48% of women desired an IUD or implant, only 15% were using one; additionally, 24% desired sterilization, but had not undergone the procedure. Thirty-three percent of women intended to have no more children, 56% intended to have more children and 11% did not know their intention; of those intending to have more children, 13% wanted to wait one year, 46% two or three years and 41% at least four years. Half of women reported that they would feel somewhat or very happy about a pregnancy in the next three months.

Among women who reported that they intended to have no more children, 36% said that they would feel somewhat or very happy if they were to become pregnant in the next three months (Table 2); the proportions among women who intended no more children for at least four years and for two or three years were 46% and 59%, respectively. As one might expect, the highest proportion of women who would be happy about a pregnancy was among those who intended to wait only one year before having another child (88%). Thus, happiness increased across the four intention groups, from those who intended no more children ever

TABLE 1. Percentage distribution of women who were not sterilized or pregnant at six-month follow-up interview, by selecte	d
characteristics, 2012–2014 Postpartum Contraception Study	

Characteristic	% (N=578)	Characteristic	% (N=578)	
BASELINE		SIX-MONTH FOLLOW-UP		
Race/ethnicity		Insurance status		
Latina	74.0	Public	16.8	
Black	6.4	Private	29.8	
White	16.6	None	53.5	
Other	3.1			
		Contraceptive method desired		
Age		Female/male sterilization	24.4	
18–24	37.0	IUD/implant	47.5	
25–29	29.8	Hormonal	14.0	
30–34	20.2	Less effective	12.1	
≥35	13.0	Don't know/none	1.9	
Relationship status		Contraceptive method currently use	ed	
Married	48.9	IUD/implant	15.1	
Cohabiting	30.5	Hormonal	28.9	
In a relationship, not cohabiting	9.4	Less effective	53.6	
Single/separated/divorced	11.2	None	2.4	
Parity		Childbearing intention		
1	36.3	No more children	32.9	
2	33.2	More children	55.7	
_ ≥3	30.5	Don't know	11.4	
Income		Timing of future childbearing (in ye	ars)†	
<\$10,000	33.6	1	12.7	
\$10,000-19,999	23.8	2 or 3	45.7	
\$20,000-34,999	14.3	≥4	40.4	
\$35,000-74,999	15.7	Don't know	1.2	
≥\$75,000	12.7		·	
		Feeling about pregnancy in next th	ree months	
Education		Very happy	16.8	
<high school<="" td=""><td>30.2</td><td>Somewhat happy</td><td>32.4</td></high>	30.2	Somewhat happy	32.4	
Completed high school	27.2	Somewhat upset	20.4	
>completed high school	42.6	Very upset	19.4	
1		Don't know	11.1	
Insurance status			•	
Public	74.2	Total	100.0	
Private	25.8	1		

to those who intended to wait one year; however, a high proportion of women overall reported feelings toward the prospect of a pregnancy that were seemingly inconsistent with their stated childbearing intentions.

Within each intention group, significant differences existed between the contraceptive methods desired by women who reported happiness about a future pregnancy and the methods that they were currently using (Table 3). Among those who intended to have no more children, 72% desired to use a highly effective method (57% sterilization and 15% IUD or implant), yet only 15% were using one (in all cases, an IUD or implant). In contrast, only 12% desired to use a less effective method, although 56% were using such methods. Among women intending to wait at least four years, 55% desired an IUD or implant, but only 23% were currently using one; in contrast, 18% desired a less effective method, but 52% were currently using one. Similarly, among women who intended to wait two or three years, 36% desired an IUD or implant, but only 10% were currently using one; 25% desired a less effective method, but 53% were currently using one.

The contraceptive methods desired by women who professed happiness about a prospective pregnancy were similar to those desired by women who professed unhappiness (Table 4). Among women who intended to have no more children, sterilization was the desired method of 57% of those who would be happy about a pregnancy and 62% of those who would be unhappy; the proportions desiring less effective methods were 12% and 5%, respectively. Among women who intended to wait at least four years, 55% of those who would be happy about a pregnancy and 66% of those who would be unhappy about one desired an IUD or implant; for less effective methods, the figures were 18% and 8%, respectively. Finally, among women who intended to wait two or three years, an IUD or implant was desired by 36% of those who would be happy about a pregnancy and 27% of those who would be unhappy; similar proportions of women who would be happy and of those would be unhappy desired less effective methods (25% and 27%, respectively). No differences were found in pairwise comparisons of each desired method type by pregnancy feelings within each intention group.

DISCUSSION

For a substantial proportion of the women in this study, an apparent inconsistency existed between their fertility intentions and their feelings about a hypothetical future pregnancy: Despite intending to have no more children or wait years to have another child, they expressed happiness at the prospect of a pregnancy in the next few months. The majority of these women were using less effective contraceptive methods, and when only their current method use was examined, little evidence was found to disprove the hypothesis that they were ambivalent about avoiding pregnancy.

Examination of the methods women desired to use, however, leads to a different conclusion about their moti-

TABLE 2. Percentage distribution of women, by their feeling about a pregnancy in the next three months, according to childbearing intention

Feeling about pregnancy	No more children	Wait≥four years	Wait two or three years	Wait one year	Don't know	
Very happy	7.9	13.1	21.1	58.5	14.3	
Somewhat happy	27.9	33.1	38.1	29.3	32.9	
Somewhat upset	23.2	18.5	20.4	4.9	25.7	
Very upset	29.0	22.3	9.5	2.4	18.6	
Don't know	12.1	13.1	10.9	4.9	8.6	
Total	100.0	100.0	100.0	100.0	100.0	
Jonckheere-Terpsta test statistic = -7.63***						

^{***}p<.001. Notes: Percentages may not add to 100.0 because of rounding. Jonckheere-Terpsta test excluded women who did not know their childbearing intentions.

TABLE 3. Percentage distribution of women who reported that they would be somewhat or very happy about a pregnancy in the next three months, by contraceptive methods they desire and are using, according to childbearing intention

			Wait two or three years (N=87)	
Using	Desire	Using	Desire	Using
0.0	0.0	0.0	0.0	0.0
14.7	55.0	23.3	36.4	10.3
26.5	23.4	25.0	33.0	33.3
55.9	18.3	51.7	25.0	52.9
2.9	3.3	0.0	5.6	3.5
100.0	100.0	100.0	100.0	100.0
*	25.8**	*	82.2***	
	*	* 25.8**	* 25.8***	* 25.8*** 82.2***

^{***}p<.001.

TABLE 4. Percentage distribution of women, by desired contraceptive method, according to childbearing intention and feeling about a pregnancy in the next three months

Method	No more children		Wait ≥four years		Wait two or three years	
	Happy (N=68)	Upset (N=99)	Happy (N=60)	Upset (N=53)	Happy (N=87)	Upset (N=44)
Female/male sterilization	57.4	61.6	0.0	0.0	0.0	0.0
IUD/implant	14.7	15.2	55.0	66.0	36.4	27.3
Hormonal	16.2	15.2	23.4	24.5	33.0	43.2
Less effective	11.7	5.0	18.3	7.6	25.0	27.3
None/don't know	0.0	3.0	3.3	1.9	5.6	2.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Freeman-Halton test statistic	4.6		3.3		2.4	

103

vation to avoid conception. A considerable proportion of women who professed happiness about a pregnancy that would have been unwanted or mistimed desired to use a highly effective contraceptive method. Moreover, few differences were found between the distributions of method types desired by women with incongruent intentions and feelings and those desired by women with congruent intentions and feelings. These findings suggest that the motivation to avoid pregnancy among women who intend to cease or delay childbearing, yet would feel happy about a future pregnancy, may be as strong and sincere as that among women who intend to cease or delay childbearing

and would feel unhappy about such a pregnancy. Although women with incongruent intentions and feelings could have higher discontinuation rates using the same methods as women with congruent intentions and feelings, the few previous studies that have examined the relationship between pregnancy feelings and contraceptive continuation suggest that this hypothesis is unlikely to be true. ^{34–36}

A key implication of these findings is the importance of recognizing a range of interpretations of incongruent feelings and intentions, including ambivalence about avoiding conception, indifference toward conception and, as shown here, strong motivation to avoid conception despite a positive feeling about pregnancy. Doing so is crucial to differentiating between pregnancies that are not deliberately prevented (i.e., those that women neither actively intend nor actively try to avoid) and pregnancies that are truly unintended (i.e., those that women actively try to prevent). Assuming that women with incongruent intentions and feelings are simply ambivalent about avoiding pregnancy undermines the sincere intent of some to prevent conception and may hinder recognition of the problems many women face in accessing the contraceptive methods they desire to use.

This issue is particularly true with regard to highly effective contraceptives with high up-front costs, such as LARC methods. A substantial body of research has highlighted the potential of LARC methods to reduce unintended pregnancy, 37-39 yet these methods are still beyond the reach of many women in the United States.⁴⁰ Use is particularly low among Latinas,41 who tend to have higher rates of unintended pregnancy than their non-Latina peers.1 At the individual level, if providers do not accurately assess women's childbearing intentions and successfully identify women with a strong motivation to avoid pregnancy, they are likely to miss opportunities to help women obtain the methods they desire. These missed opportunities are especially apparent among postpartum women in the United States, where access to both sterilization and LARC methods immediately following delivery is limited. 42,43

Distinguishing between ambivalence about preventing conception and a positive feeling about pregnancy despite sincere intent to prevent it has implications for policy. The women participating in this study were recruited in Texas, where access to highly effective methods is hindered by restrictions on public funding for contraception. Clinics are limited in their ability to provide the most effective methods at low cost, and many women are unable to afford high out-of-pocket expenses. 44 A similar situation exists in many states besides Texas. The ability to identify women who are earnestly trying to avoid conception and who desire a highly effective method—despite having a positive feeling about pregnancy-would strengthen the case to policymakers that uptake of the most effective methods would be high if these methods were made available and that enhanced access would help reduce unintended pregnancy.

In addition, this study's findings have implications for large state and national surveys examining unintended pregnancy, such as the NSFG and the Pregnancy Risk Assessment Monitoring System. These surveys do not collect information on participants' desired methods of contraception; however, as seen here and previously reported, ²⁸ the methods women are using may not be an accurate representation of the methods they truly desire. Measurement of contraceptive desires in state and national surveys would allow better assessment of the degree to which women's contraceptive needs are being met, as well as provide an important dimension for the interpretation of pregnancy intentions.

Strengths and Limitations

The key strengths of this study are the prospective measurement of pregnancy intentions and feelings about pregnancy (thus eliminating the possibility of recall bias) and the measurement of desired methods of contraception. There are, however, also some important limitations. The small sample size and the fact that recruitment took place in only two cities in Texas limit the generalizability of results. The predominantly Latina sample, despite reflecting the population in which incongruence in intentions and feelings is most common,9 limits the generalizability of conclusions across racial and ethnic groups. Desired methods of contraception are not commonly assessed in surveys measuring contraceptive use or pregnancy intention, and the study relied on the validity of the constructs designed to measure method preference. The same is true of the measures of pregnancy intentions and feelings about pregnancy, which relied upon respondents' interpretations of what the questions were asking, and which might have been susceptible to desirability bias or other types of social or cognitive biases. Although the constructs designed to measure contraceptive desires and pregnancy intentions and feelings were assessed using two sets of in-depth interviews, it must be assumed that the subsample of women interviewed is reasonably representative of the entire study sample. Additionally, pregnancy intentions and feelings may change over time, 45 and in this analysis, they are assessed cross-sectionally.

Conclusion

In light of the stubbornly high rate of unintended pregnancy in the United States, further investigation of women's contraceptive desires and how such desires relate to their pregnancy intentions and feelings is warranted. Such research could improve how accurately women's pregnancy intentions are interpreted, by helping to distinguish between women who are and those who are not ambivalent about avoiding pregnancy. Moreover, additional research could help inform strategies for meeting women's contraceptive needs.

REFERENCES

- 1. Finer LB and Zolna MR, Shifts in intended and unintended pregnancies in the United States, 2001–2008, *American Journal of Public Health*, 2014, 104(Suppl. 1):S43–S48.
- **2.** Gipson JD, Koenig MA and Hindin MJ, The effects of unintended pregnancy on infant, child, and parental health: a review of the literature, *Studies in Family Planning*, 2008, 39(1):18–38.

- 3. Santelli J et al., The measurement and meaning of unintended pregnancy, *Perspectives on Sexual and Reproductive Health*, 2003, 35(2):94–101.
- 4. Klerman LV, The intendedness of pregnancy: a concept in transition, *Maternal and Child Health Journal*, 2000, 4(3):155–162.
- 5. Trussell J, Vaughan B and Stanford J, Are all contraceptive failures unintended pregnancies? Evidence from the 1995 National Survey of Family Growth, Family Planning Perspectives, 1999, 31(5):246–247 & 260
- $6. \ \ Rosenzweig\ M\ and\ Wolpin\ K, Maternal\ expectations\ and\ ex\ post\ realizations, \textit{Journal\ of\ Human\ Resources},\ 1993,\ 28(2):205-227.$
- 7. Aiken AR and Potter JE, Are Latina women ambivalent about pregnancies they are trying to prevent? Evidence from the Border Contraceptive Access Study, *Perspectives on Sexual and Reproductive Health*, 2013, 45(4):196–203.
- 8. Chandra A et al., Fertility, family planning, and reproductive health of U.S. women: data from the 2002 National Survey of Family Growth, Vital and Health Statistics, 2005, Series 23, No. 25.
- 9. Hartnett CS, Are Hispanic women happier about unintended births? *Population Research and Policy Review*, 2012, 31(5):683–701.
- 10. Schwarz EB et al., Prevalence and correlates of ambivalence towards pregnancy among nonpregnant women, *Contraception*, 2007, 75(4):305–310.
- 11. Moos MK et al., Pregnant women's perspectives on intendedness of pregnancy, Women's Health Issues, 1997, 7(6):385–392.
- **12.** Barrett *G* and Wellings K, What is a "planned" pregnancy? Empirical data from a British study, *Social Science & Medicine*, 2002, 55(4):545–557.
- 13. Sable MR and Libbus MK, Pregnancy intention and pregnancy happiness: Are they different? *Maternal and Child Health Journal*, 2000, 4(3):191–196.
- **14.** Borrero S et al., "It just happens": a qualitative study exploring low-income women's perspectives on pregnancy intention and planning, *Contraception*, 2015, 91(2):150–156.
- **15.** Kavanaugh ML and Schwarz EB, Prospective assessment of pregnancy intentions using a single- versus a multi-item measure, *Perspectives on Sexual and Reproductive Health*, 2009, 41(4):238–243.
- **16.** Frost JJ and Darroch JE, Factors associated with contraceptive choice and inconsistent method use, United States, 2004, *Perspectives on Sexual and Reproductive Health*, 2008, 40(2):94–104.
- 17. Frost JJ, Singh S and Finer LB, Factors associated with contraceptive use and nonuse, United States, 2004, *Perspectives on Sexual and Reproductive Health*, 2007, 39(2):90–99.
- **18.** Yee L and Simon M, The role of the social network in contraceptive decision-making among young, African American and Latina women, *Journal of Adolescent Health*, 2010, 47(4):374–380.
- **19.** Raine TR et al., Contraceptive decision-making in sexual relationships: young men's experiences, attitudes and values, *Culture*, *Health & Sexuality*, 2010, 12(4):373–386.
- **20.** Dehlendorf *C* et al., Health care providers' knowledge about contraceptive evidence: a barrier to quality family planning care? *Contraception*, 2010, 81(4):292–298.
- **21**. Dehlendorf C et al., Disparities in family planning, *American Journal of Obstetrics & Gynecology*, 2010, 202(3):214–220.
- **22.** Moreau C, Cleland K and Trussell J, Contraceptive discontinuation attributed to method dissatisfaction in the United States, *Contraception*, 2007, 76(4):267–272.
- ${\bf 23.}\ \ Higgins\ JA\ et\ al.,\ Relationships\ between\ condoms,\ hormonal\ methods,\ and\ sexual\ pleasure\ and\ satisfaction:\ an\ exploratory$

- analysis from the Women's Well-Being and Sexuality Study, Sexual Health, 2008, 5(4):321–330.
- **24**. Littlejohn KE, Hormonal contraceptive use and discontinuation because of dissatisfaction: differences by race and education, *Demography*, 2012, 49(4):1433–1452.
- 25. Miller E et al., Pregnancy coercion, intimate partner violence and unintended pregnancy, *Contraception*, 2010, 81(4):316–322.
- **26.** Secura GM et al., The Contraceptive CHOICE Project: reducing barriers to long-acting reversible contraception, *American Journal of Obstetrics & Gynecology*, 2010, 203(2):115.e1–115.e7.
- **27**. Potter JE et al., Frustrated demand for postpartum female sterilization in Brazil, *Contraception*, 2003, 67(5):385–390.
- **28**. Potter JE et al., Unmet demand for highly effective postpartum contraception in Texas, *Contraception*, 2014, 90(5):488–495.
- **29.** Aiken AR, Dillaway C and Mevs-Korff N, A blessing I can't afford: factors underlying the paradox of happiness about unintended pregnancy, *Social Science & Medicine*, 2015, 132(1):149–155.
- **30**. Trussell J, Contraceptive failure in the United States, *Contraception*, 2011, 83(5):397–404.
- **31.** Trussell J and Guthrie KA, Choosing a contraceptive: efficacy, safety, and personal considerations, in: Hatcher RA et al., eds., *Contraceptive Technology*, 20th revised ed., New York: Ardent Media, 2011.
- **32.** Jonckheere AR, A distribution-free k-sample test against ordered alternatives, *Biometrika*, 1954, 41(1–2):133–145.
- **33.** Freeman GH and Halton JH, Note on an exact treatment of contingency, goodness of fit and other problems of significance, *Biometrika*, 1951, 38(1–2):141–149.
- **34.** Potter JE et al., Continuation of prescribed compared with over-the-counter oral contraceptives, *Obstetrics & Gynecology*, 2011, 117(3):551–557.
- **35.** Higgins JA, Popkin RA and Santelli JS, Pregnancy ambivalence and contraceptive use among young adults in the United States, *Perspectives on Sexual and Reproductive Health*, 2012, 44(4):236–243.
- **36.** Rocca CH, Harper CC and Raine-Bennett TR, Young women's perceptions of the benefits of childbearing: associations with contraceptive use and pregnancy, *Perspectives on Sexual and Reproductive Health*, 2013, 45(1):23–32.
- **37**. Blumenthal PD, Voedisch A and Gemzell-Danielsson K, Strategies to prevent unintended pregnancy: increasing use of long-acting reversible contraception, *Human Reproduction Update*, 2011, 17(1):121–137.
- **38.** Peipert JF et al., Preventing unintended pregnancies by providing no-cost contraception, *Obstetrics & Gynecology*, 2012, 120(6):1291–1297.
- **39.** Trussell J and Wynn LL, Reducing unintended pregnancy in the United States, Contraception, 2008, 77(1):1-5.
- **40**. Cleland K et al., Family planning as a cost-saving preventive health service, *New England Journal of Medicine*, 2011, 364(18):e37.
- 41. Dehlendorf C et al., Racial/ethnic disparities in contraceptive use: variation by age and women's reproductive experiences, American Journal of Obstetrics & Gynecology, 2014, 210(6):526. e1–526 e9
- **42.** Aiken AR et al., Global fee prohibits postpartum provision of the most effective reversible contraceptives, *Contraception*, 2014, 90(5):466–467.
- **43.** Borrero S et al., Medicaid policy on sterilization—anachronistic or still relevant? *New England Journal of Medicine*, 2014, 370(2):102–104.

Volume 47, Number 2, June 2015 **105**

- **44.** White K et al., Cutting family planning in Texas, *New England Journal of Medicine*, 2012, 367(13):1179–1181.
- **45**. Sennott C and Yeatman S, Stability and change in fertility preferences among young women in Malawi, *International Perspectives on Sexual and Reproductive Health*, 2012, 38(1):34–42.

Acknowledgments

The work on which this article is based was supported by National Institute of Child Health and Human Development (NICHD) grants R24HD047879 and 5 R24 HD042849, NICHD predoctoral fellowship F31HD079182–01 and a grant from an anonymous foundation. The author thanks colleagues from the Texas Policy Evaluation Project, from which the Postpartum Contraception Study data were drawn, and James Trussell for helpful discussion during the preparation of the manuscript.

Author contact: aaiken@princeton.edu