

Effect of prospectively-measured pregnancy intention indicators on the consistency of contraceptive use among young women in the US

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Introduction

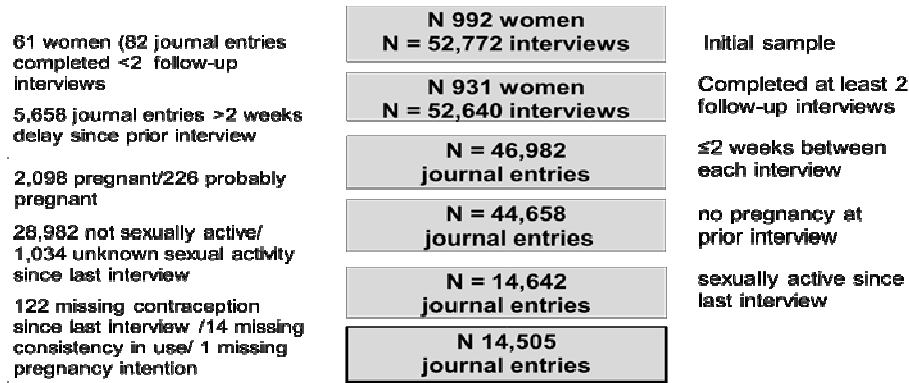
Pregnancy intendedness is commonly used as an indicator of how well individuals achieve their reproductive goals. In the US, almost 750,000 teenagers become pregnant [1], with only 20% reporting their pregnancy as intended [2]. These measures are based on retrospective accounts of pregnancy intentions which may not reflect intentions at the time women became pregnant. Furthermore, the traditional bipolar scheme of intended *versus* unintended fails to recognize that women do not always have explicit plans for reproduction, as evidenced by divergence between reproductive attitudes and behaviors [3]. This lack of nuance is problematic as shown in a study indicating that a third of the women who experienced a contraceptive failure were happy about the pregnancy and reported it as being intended [11]. Prospective assessment of pregnancy intentions, using a multidimensional measure may thus prove valuable in identifying women who are ambivalent about becoming pregnant [4]. The aim of this paper is therefore to assess the relation between prospectively measured pregnancy intention and consistency of contraceptive use.

Methods

Data are drawn from the NCHD/NIH (#R01-HDHD050329) longitudinal study “Young Women's Relationships, Contraception, and Unintended Childbearing” comprising a random sample of 1,250 women ages 18-19 years from one county in Michigan. An initial 60-minute face-to-face baseline interview was conducted to assess key demographic, social and relationship information. Over the thirty-month follow-up period, women provided weekly journals via Internet and Interactive Voice Response (telephone) technologies. Each weekly journal assessed time-varying characteristics of contraceptive use, pregnancy intentions and pregnancy avoidance, relationship characteristics and sexual and reproductive outcomes. IRB approval has been obtained from University of Michigan and Princeton University.

Our sample was comprised of 14,505 pairs of journal entries completed during the first 18 months of follow-up, for which women reported in the second entry they were not pregnant at last interview and had had intercourse since the last interview (Figure 1).

Figure 1. Study flow chart



Our analysis focused on weekly measures of pregnancy intendedness and pregnancy avoidance as predictor variables and time-varying consistency of contraceptive use as the dependent variable. On a scale from 0 to 5, women responded each week to how much they wanted to avoid pregnancy (0=not-at-all, 5=really) and conversely how much they wanted to get pregnant (0=not-at-all, 5=really). They also described their use of contraception from week to week, including type of method used and consistency of use within the last week. We prospectively analyzed pregnancy intention/avoidance responses from the prior week’s journal along with the following week’s contraceptive use responses.

We used a random effect logistic regression model to explore the effects of different pregnancy intention scales on consistency of contraceptive use measured the following week, controlling for women’s socio-demographic characteristics.

Results

More than a quarter of women (28.3%) reported inconsistent use of contraception during the last week, including non-users. Consistent contraceptive use increased from 21% to 77.4% as intentions to become pregnant decreased and pregnancy avoidance increased (Table 1). Compared to women who scored 0 (did not want to avoid a pregnancy at all), the threshold score for an increased odds of consistent contraceptive use was 5 on the avoidance scale (OR=2.1; CI=1.3-3.6). Women who scored 3 or below on the intention scale were more likely to be consistent contraceptive users than women who scored 5 on the intention scale (OR=3.3 for women who scored 3 as compared to women who scored 5; CI=1.7-6.6).

Table 1. Consistent contraceptive use by summary of responses on the pregnancy avoidance and intention scales

	<i>n</i>	%	% consistent contraceptive use	OR* consistent contraceptive use	95%CI	<i>p</i>
Avoidance scale (how much do you want to avoid getting pregnant)						
5=(really)	12,582	86.7	77.7	2.1	1.3	3.6 0.005
4	532	3.7	48.5	0.9	0.5	1.7 0.8
3	572	3.9	30.9	1.0	0.5	1.7 0.9
2	274	1.9	30.7	1.1	0.6	2.1 0.8
1	175	1.2	15.4	0.3	0.1	0.6 0.002
0=(not-at-all)	370	2.6	23	1		
Intention scale (how much do you want to get pregnant)						
5=(really)	350	2.4	21.1	1		
4	253	1.7	17.8	1.0	0.5	2.1 0.993
3	606	4.2	28.4	3.3	1.7	6.6 0
2	300	2.1	45	4.4	2.2	8.8 0
1	359	2.5	56.6	4.0	2.0	8.0 0
0=(not at all)	12,637	87.1	77.4	5.7	3.0	10.8 0

Model adjusted for baseline age, parity, income, religiosity, educational attainment & school attendance and age at coitus

The combination of scores of the avoidance and intention scales shows incoherent or ambivalent pregnancy intention responses in 4% of weekly records (Tables 2 & 3).

Table 2. Pairs of weekly responses to the pregnancy intention and avoidance scales

		Avoidance scale (Want avoid pregnancy)					Total	
		(0=not-at-all)		(5=really)				
		0	1	2	3	4	5	
Intention scale (Want pregnancy) (0= not at all)	0	62	10	6	51	106	12,402	12,637
	1	2	6	2	10	254	85	359
	2	2	10	59	91	114	24	300
	3	35	22	113	381	28	27	606
	4	28	103	61	24	22	15	253
	5	241	24	33	15	8	29	350
Total		370	175	274	572	532	12,582	14,505

Using the combined pregnancy intention scale, we find percentages of consistent contraceptive use are lower for women with incoherent or ambivalent pregnancy intention responses than those who state they strongly want to avoid and do not intend to get pregnant (Table 3).

Table 3. Consistency in weekly use of contraception by a combined pregnancy intention scale

Paired intention	<i>n</i>	%	% consistent user
avoid++	12,402	85.5	77.8
avoid+	445	3.1	56.8
incoherent+++	91	0.6	52.7

ambivalent++	64	0.4	43.7
ambivalent+	464	3.2	39.7
Indifferent	644	4.4	29.8
intend+	155	1.1	10.3
intend++	241	1.7	15.4

Discussion

This study illustrates the importance of examining pregnancy intendedness beyond the traditional bipolar measure of pregnancy intention. We find that intention to become pregnant and intention to avoid pregnancy independently predict subsequent consistent contraceptive use.

The comparison of intention scores (avoidance versus intention) reveals a small proportion of women giving inconsistent responses; these women appear to experience ambivalent or conflicting feelings about pregnancy as they are less likely to report consistent contraceptive use.

These results call for further investigation regarding the characteristics of women who may have ambivalent or conflicting feelings about pregnancy, including how these feelings fluctuate over time and how they may inform choice of contraceptive methods as well as consistency of use.

Ultimately, such results make the case for developing multidimensional measures of pregnancy intentions in national surveys which better reflect complex and conflicting attitudes towards sexuality and childbearing.

References

1. Finer LB et al. Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspectives on Sexual and Reproductive Health* 2006;38(2):90–96.
2. Kost K, Henshaw S, Carlin L. *U.S. Teenage Pregnancies, Births and Abortions: National and State Trends and Trends by Race and Ethnicity*, 2010. Available at <http://www.guttmacher.org/pubs/USTPtrends.pdf>. Accessed Jan. 26, 2010.
3. Luker KC. A reminder that human behavior frequently refuses to conform to models created by researchers. *Family Planning Perspectives* 1999;31(5):248–249.
4. Kavanaugh, M, Schwarz, EB. Prospective assessment of pregnancy intentions using a single- vs. multi-item measure. *Perspectives on Sexual and Reproductive Health* 2009; 41(4):238–243, doi:10.1363/4123809