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Couple Pregnancy Intentions and Induced Abortions in the United States



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Abstract

Objectives: Approximately half of US pregnancies are unintended and 43% of these end in induced abortions. Male partners and their involvement in reproductive decisions is not well understood. We examined the association between couple pregnancy intentions and induced abortion in US women.

Materials and Methods: Data came from the National Survey of Family Growth (2006-2010). Primiparous women who lived with one husband or partner before conception of their first pregnancy were included in the analysis (N=4263). Multiple logistic regression was used to assess the relationship between couple pregnancy intentions and induced abortion of first pregnancy.

Results: Approximately 17.1% of women reported discordant intentions and 32.3% reported that pregnancy was unintended by both parents. Among these couples, the women were more likely to be unmarried, minorities, of lower income and education, and 19 years of age or younger at conception than were couples in which both parents intended pregnancy. Compared to couples with a mutually intended pregnancy, those with discordant pregnancy intentions were significantly more likely to have induced abortion, even in women who desired pregnancy.

Conclusion: Partners had a vital role in decisions to have an induced abortion. Health providers should consider the interpersonal decision-making process in couples to best prevent induced abortions due to unintended pregnancy. Providers should also be aware of the role of violence on reproductive decisions in couples with discordant pregnancy intentions. Women in healthy relationships can benefit from having frequent conversations about pregnancy with their partners.

Keywords: Abortion, Contraception, Unwanted pregnancy, Family planning services, Intimate partner violence

Introduction

In the United States, approximately half of all pregnancies are unintended and 43% of these terminate in induced abortions (1). Induced abortions related to unintended pregnancies account for 20% of all pregnancies (2) with markedly increased rates among low-income, minority populations (2,3). Other groups—e.g., women who are uninsured, Medicaid beneficiaries (4), cohabiting, or unmarried (1-3)—also experience disproportionately heightened rates of induced abortions and unintended pregnancies. Reflecting the extent of this public health problem, the US Department of Health and Human Services set a goal to achieve a 10% increase in the proportion of intended pregnancies by 2020 (5).

Male partners and their level of support can play an important role in maternal reproductive decisions. A few studies concerning postpartum and post-abortion contraception methods found that women expected their male partners to be involved in decisions and appreciated better informed and supportive partners (6,7). For example, one study comprised of couples attending counseling for post-abortion contraception, reported 77% of women and

59% of their respective partners expected partner involvement in the health visit (6). Moreover, partner support or opposition to contraceptive methods affected initiation and continuation of contraception (6,7).

While limited by small samples and lack of control groups, results from the aforementioned studies help elucidate inconsistencies in the literature regarding effectiveness of contraceptive counseling following abortion (8-10). For example, some research show support for counseling interventions intended to improve knowledge and use of effective contraception (8,9) whereas a meta-analysis by Ferreira et al (10) showed no significant differences in contraceptive use and acceptance due to contraceptive counseling among women undergoing induced abortion (odds ratio [OR] = 1.32, 95% CI = 0.90-1.94). The variable impact of educational interventions may be partially due to differing levels of partner involvement in family planning decisions. Thus, it is important to consider the interpersonal decision-making process and behaviors in couples to prevent induced abortions due to unintended pregnancy (11,12). In particular, extant literature indicates the role of abusive relationships in shaping women's

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reproductive decisions (13,14).

Intimate partner violence (IPV) is a complicating factor in women's decisions to have an induced abortion. Earlier research demonstrated an association between IPV and reproductive control as indicated by decreased contraceptive use (13) and increased induced abortion (14). While much of the literature has focused on the interplay between IPV, maternal pregnancy intention (14,15) and adverse birth outcomes (16), few studies have explored how the partner's desires for the pregnancy influence the reproductive decision-making process. To our knowledge, no published studies have evaluated maternal pregnancy intention in tandem with paternal pregnancy intention and the impact on induced abortions.

The current study seeks to examine the relationship between couple pregnancy intentions and induced abortion in US women.

Materials and Methods

Data came from the 2006-2010 National Survey of Family Growth (NSFG). The survey uses a multi-stage, probability sampling framework to collect information on families, relationships, fertility, and health behaviors from a nationally representative sample of US residents between 15 to 44 years of age (17). Primiparous women with at least one completed pregnancy prior to the interview date were included in the analysis. Inclusion criteria also included cohabitation with one husband or partner at the time of the first pregnancy conception to capture data on paternal characteristics. Accordingly, women who did not report cohabiting with anyone at the time of their first pregnancy, lived with multiple partners or husbands, or did not provide information about pregnancy intentions and induced abortion of first pregnancy were excluded – leaving a final sample of 4263 women.

Information on pregnancy outcomes was ascertained by the following survey question, “*Now I'd like to ask some questions specifically about your pregnancy...In which of the ways shown on Card 13 did the pregnancy end?*” Choices included miscarriage, stillbirth, induced abortion, ectopic or tubal pregnancy, live birth by Cesarean section, and live birth by vaginal delivery. Women whose first pregnancy ended in an induced abortion were categorized as having experienced induced abortion. Those who reported any other pregnancy outcomes were categorized as not having experienced an induced abortion.

The couple's pregnancy intentions were determined by a series of questions about each pregnancy and the wantedness of the pregnancy prior to conception. Maternal pregnancy intention was considered “intended” if women desired a child at the time of the first pregnancy, wanted it sooner, or were indifferent. A pregnancy that was mistimed or unwanted was considered “unintended” (1). Female respondents were asked similar questions to assess their partner's pregnancy desires at conception and were classified in a similar fashion. Couple pregnancy intentions were then recoded into the following: both intended (M+P+), both unintended (M-P-), maternal intended

only (M+P-), and paternal intended only (M-P+) (18,19). Potential covariates were considered in accordance with the literature (1,2,4,20). Individual characteristics included race/ethnicity, maternal age at interview, highest completed education, and income to poverty level. Childhood psychosocial and demographic factors included having an intact family through 18 years of age, raised religion, age of mother-figure at first child birth, and nativity. Sexual development and behavior variables consisted of age of menarche, age of first sexual encounter, and effectiveness of contraceptive method (21) used at first sexual encounter. Factors specific to first pregnancy included maternal age at conception, marital status when pregnancy began, and contraceptive use before first pregnancy. The number of years of cohabitation with partners at the time of pregnancy was also assessed.

Statistical Analysis

Descriptive statistics provided the distribution of characteristics among participants by induced abortion and couple pregnancy intention. Rao-Scott chi-square tests allowed for bivariate group comparisons for categorical variables. Logistic regression models generated OR and 95% CI to examine the association between couple pregnancy intention and induced abortion. Potential confounders were included in parsimonious logistic regression models if their inclusion resulted in a 10% change or more in the OR estimate. Effect modification due to race/ethnicity was assessed using an interaction term ($P = 0.9149$) but was not statistically significant; therefore race/ethnicity was assessed as a potential confounder. Analyses accounted for the multi-stage, complex sampling design using SAS software version 9.4 (Cary, Indiana).

Results

Overall, 28.5% of women were aged 19 or younger at conception, 43.6% were not married when pregnancy began, and more than half (52.3%) reported no pre-pregnancy contraceptive use (Table 1). Approximately 9.2% of women terminated their first pregnancy in an induced abortion (not shown in tables). Couples' intentions for pregnancy were concordant in 82.9% of cases, with 50.5% of respondents reporting mutually intended pregnancies and nearly a third (32.3%) reporting mutually unintended pregnancies (Table 1). Among the cases of discordant pregnancy intentions (17.1%), there was a greater prevalence of pregnancies intended by the husband/partner but not the mother (M-P+; 10.1%) than pregnancies intended by the mother and not the male partner (M+P-; 7.1%). More women with induced abortion were non-Hispanic black, did not have an intact family in childhood, and were raised without any specified religion than those with no induced abortion ($P < 0.05$) (Table 1). Induced abortion was associated with sexual development and behavioral factors such as effectiveness of contraception at first sexual encounter and first pregnancy factors (i.e. maternal age at conception, marital status, and years of cohabitation). Pregnancies that were mutually unintended accounted for

Table 1. Weighted Distribution of Characteristics by Induced Abortion Status

	Total n = 4263	Induced Abortion n = 462	No Induced Abortion n = 3801	P Value
	Weighted Column %			
Race/ethnicity				
Non-Hispanic white	59.1	57.2	59.2	0.0273
Non-Hispanic black	14.3	19.4	13.8	
Hispanic	17.7	12.9	18.2	
Non-Hispanic other race	8.8	9.9	8.7	
Age at interview				
15-19 years	3.2	5.2	3.0	<0.0001
20-24 years	10.1	18.2	9.3	
25-29 years	16.4	15.2	16.5	
30-34 years	20.3	16.6	20.7	
35-39 years	25.6	21.4	26.0	
40-44 years	24.4	23.4	24.5	
Education				
Less than high school	18.1	13.7	18.6	0.0003
High school	25.1	24.8	25.2	
Greater than high school	56.7	61.6	56.2	
Income to poverty level				
<150%	33.5	27.0	34.1	0.2274
150-299%	29.3	33.7	28.9	
≥300%	37.2	39.4	37.0	
Intact family until age 18				
Yes	62.3	47.1	63.8	0.0002
No	37.7	52.9	36.2	
Raised religion				
Catholicism	34.7	36.5	34.6	0.0018
Protestantism	46.9	38.8	47.7	
Other	9.2	9.5	9.2	
None	9.2	15.2	8.6	
Age of mother-figure at first birth				
<18 years	18.6	16.8	18.8	0.3408
≥18 years	81.4	83.2	81.2	
Born outside the U.S.				
Yes	17.9	11.8	18.6	0.0295
No	82.1	88.2	81.4	
Age of menarche				
<12 years	21.9	26.2	21.4	0.0114
12 years	27.4	30.4	27.1	
13 years	25.1	27.0	24.9	
14 years	14.0	10.7	14.3	
≥15 years	11.7	5.7	12.3	
Age at first sexual encounter				
<15 years	14.8	31.0	13.1	<0.0001
15-17 years	43.1	47.2	42.7	
≥18 years	42.1	21.7	44.2	
Effectiveness of contraception at first sexual encounter				
Most effective	22.5	11.9	23.5	<0.0001
Somewhat effective	44.5	51.5	43.8	
Least effective	0.6	0.1	0.7	
Not effective	32.4	36.5	31.9	
Maternal age at conception				
≤19 years	28.5	55.9	25.7	<0.0001
20-29 years	55.8	42.1	57.2	
30-43 years	15.6	2.0	17.0	
Marital status when pregnancy began				
Married	56.4	6.5	61.4	<0.0001
Not married	43.6	93.5	38.6	
Pre-pregnancy contraceptive use				
Yes	47.7	46.3	47.8	0.7849
No	52.3	53.7	52.2	
Years of cohabitation				
≤ 6 years	28.9	56.6	27.8	<0.0001
7-10 years	22.0	9.1	22.5	
11-15 years	24.2	9.7	24.8	
≥16 years	25.0	24.7	25.0	
Couple pregnancy intention				
^a M+P+	50.5	2.5	55.4	<0.0001
^b M-P-	32.2	83.8	27.0	
^c M+P-	7.1	3.1	7.5	
^d M-P+	10.1	10.5	10.1	

Sample size is unweighted; P values based on Rao-Scott χ^2 .

^a M+P+ (both pregnancy intended); ^b M-P- (both pregnancy unintended); ^c M+P- (maternal pregnancy intended, paternal pregnancy unintended);

^d M-P+ (maternal pregnancy unintended, paternal pregnancy intended).

a larger proportion of pregnancies ending with induced abortions (83.8%) than of other pregnancies (27.0%). Couples with discordant intentions accounted for a fewer proportion of induced abortions than other pregnancies (13.6% vs. 17.6%, respectively).

Table 2 shows the weighted distribution of characteristics by pregnancy intention dyads. Couples with mutually intended pregnancy (M+P+) were more likely than other dyads to include women who were non-Hispanic white, highly educated, and married ($P < 0.0001$). Conversely, couples with mutually unintended pregnancies (M-P-) and discordant desires (M+P-, M-P+) were more likely than mutually intended pregnancies to include women who were unmarried, racial/ethnic minorities, lacking a high school education, of low income, aged 19 or younger at conception, and not using contraception before pregnancy.

Compared to mutually intended pregnancies (M+P+), mutually unintended pregnancies (M-P-) and those with discordant intentions had increased odds of having an induced abortion adjusting for income, raised religion, age of mother at first birth, maternal age at conception, marital status, and years of cohabitation (Table 3). The adjusted OR for induced abortion was 5.3 (95% CI = 3.1-9.2) in discordant pregnancies in which the male partner did not intend the pregnancy and 6.9 (95% CI = 1.5-32.9) when the female partner did not intend the pregnancy. Consistent results were obtained in analyses where maternal and paternal pregnancy intentions were assessed separately (Table 4). Women with unintended pregnancy had significantly increased odds of having an induced abortion after accounting for confounding factors (AOR = 12.8, 95% CI = 2.2-73.6). Women whose partners did not intend the pregnancy were more than eight times as likely to have an induced abortion (AOR = 8.6, 95% CI = 5.1-14.7).

Discussion

This study found a significant association between couples' pregnancy intentions and the rate of induced abortions, a relationship few prior studies have explored (18,19). Using NSFG data, Williams (18) found that 61.9% of women reported their first pregnancy was desired by both partners, 5.6% as wanted by only the woman, 6.9% as wanted by only the male partner, and 23.1% as wanted by neither. That analysis did not include pregnancies that ended in induced abortions and those that occurred despite the use of contraception (i.e. contraceptive failures). This exclusion may explain the higher prevalence of discordant and concordant unintended pregnancy intentions observed in our study. Our findings showed discordant couple intentions had up to a seven-fold increased odds of induced abortion than couples in which both intended the pregnancy. Furthermore, couples with mutual unintended pregnancy were significantly more likely to have an elective termination than couples in which both intended the pregnancy. Significant differences between the concordant pregnancy intention groups suggest that couples with mutually unintended pregnancy have challenges with access to and utili-

zation of contraception. This is not surprising given more than half of all mutually unintended pregnancies were comprised of women aged 19 or younger at conception. Although a recent study showed teen unintended pregnancy rates declined in 2001 to 2006, unintended pregnancies ending in abortion also increased in this high-risk group (1) which suggests a need for improved access to effective contraceptives. Data from the national Pregnancy Risk Assessment Monitoring System (2004-2008) indicated 13.1% of young mothers who did not use contraception reported difficulties accessing birth control as a reason for nonuse (22). Other reasons included misconceptions, experiencing side-effects, and partners not wanting to use contraception (22). Moreover, intentions to avoid pregnancy do not necessarily give rise to safe sexual practice in couples. In one qualitative study, young mothers who stated that their pregnancies were unintended also reported impulsive and unprotected sexual activity due to feeling pressured to have sex, contraceptive coercion, and lack of thought to the consequences (23).

A woman's ability to make reproductive decisions can be compromised in abusive relationships (13,24,25). Abused women are at increased risk of experiencing repeat induced abortion, miscarriage, and problems with contraceptive use (13). While extant research has focused on themes related to partners' negative influence on contraceptive use, cases where male partners pressured or coerced women into terminating pregnancies have been less understood (25). A common practice in epidemiologic research is to assume that all elective terminations result from unintended pregnancies when in fact, it has been estimated that 5%-8% of induced abortions occur among women who intended the pregnancies (1,2). This prevents researchers from fully exploring couple dynamics and attitudes towards pregnancy; especially in cases where males, in contrast to their female partners, do *not* desire children. Although some cases of abortion following an intended pregnancy may be due to changes in maternal wishes (26), previous research highlights the possible role of the partner in general, and IPV in particular, in shaping reproductive decisions (14,27).

This study found that the odds of abortion were increased when women did not intend pregnancy but the male partner did. However, reasons for seeking termination of pregnancy are far more complex and multifaceted than women simply not intending to become pregnant (28). Finer et al (29) evaluated common reasons for having an abortion among patients seeking pregnancy termination such as interference with school/career, ability to care for existing dependents, resource or financial difficulties, and no desire for single motherhood. Of interest were factors related to partners such as lack of support, partner wanting an abortion, and abusive relationships. Women who have no desire for pregnancy may not inform partners of their decision to have an induced abortion for these and other reasons (27,30). A recent meta-analysis reported that compared to women in non-violent relationships, abused women were twice as likely to have concealed the preg-

Table 2. Weighted Distribution of Characteristics by Couple Pregnancy Intention Dyads

	M+P+ ^a n = 1882	M-P- ^b n = 1560	M+P- ^c n = 286	M-P+ ^d n = 535	P value
Weighted column %					
Race/ethnicity					
Non-Hispanic white	65.3	54.9	58.9	41.8	<0.0001
Non-Hispanic black	7.4	20.3	13.3	30.6	
Hispanic	19.4	14.4	19.9	18.4	
Non-Hispanic other race	7.9	10.4	7.9	9.3	
Age at interview					
15-19 years	0.3	7.5	1.2	5.1	<0.0001
20-24 years	5.4	16.0	8.5	16.0	
25-29 years	12.7	18.5	19.9	25.6	
30-34 years	24.4	16.1	15.9	16.9	
35-39 years	30.4	20.5	24.8	18.4	
40-44 years	26.8	21.5	29.7	18.1	
Education					
Less than high school	15.1	22.1	15.7	22.3	<0.0001
High school	19.7	30.0	32.0	31.7	
Greater than high school	65.1	47.9	52.3	46.0	
Income to poverty level					
<150%	24.5	42.9	31.3	49.5	<0.0001
150-299%	27.4	30.6	39.8	27.3	
≥300%	48.1	26.5	28.9	23.2	
Intact family until age 18					
Yes	73.3	48.7	63.4	49.4	<0.0001
No	26.7	51.3	36.6	50.6	
Raised religion					
Catholicism	38.1	30.5	36.9	29.7	<0.0001
Protestantism	43.5	50.5	43.6	54.5	
Other	11.3	6.0	11.7	7.0	
None	7.1	13.0	7.9	8.8	
Age of mother-figure at first birth					
<18 years	14.4	22.0	20.9	27.4	<0.0001
≥18 years	85.6	78.0	79.1	72.6	
Born outside the U.S.					
Yes	22.3	11.4	18.7	16.2	<0.0001
No	77.7	88.6	81.3	83.8	
Age of menarche					
<12 years	19.7	23.1	22.8	27.9	0.0197
12 years	26.6	30.9	21.3	24.6	
13 years	26.9	23.1	23.2	23.7	
14 years	14.3	11.9	18.1	16.0	
≥15 years	12.5	11.0	14.6	7.8	
Age at first sexual encounter					
<15 years	7.0	24.8	12.4	23.5	<0.0001
15-17 years	38.5	51.0	32.3	48.7	
≥18 years	54.5	24.2	55.3	27.8	
Effectiveness of contraception at first sexual encounter					
Most effective	27.0	16.0	22.7	20.5	<0.0001
Somewhat effective	44.5	46.6	43.5	39.1	
Least effective	0.9	0.2	1.3	0.2	
Not effective	27.6	37.2	32.5	40.3	
Maternal age at conception					
≤19 years	10.4	51.8	18.7	51.4	<0.0001
20-29 years	62.8	45.4	68.5	45.1	
30-43 years	26.7	2.7	12.8	3.5	
Marital status when pregnancy began					
Married	83.6	21.7	52.9	33.3	<0.0001
Not married	16.4	78.3	47.1	66.7	
Pre-pregnancy contraceptive use					
Yes	49.1	47.7	39.8	45.8	0.3901
No	50.9	52.3	60.2	54.2	
Years of cohabitation					
≤ 6 years	23.1	43.0	28.1	46.9	<0.0001
7-10 years	24.0	15.9	23.6	16.8	
11-15 years	27.5	20.0	18.2	11.6	
≥16 years	25.4	21.1	30.1	24.6	

Sample size is unweighted; p-values based on Rao-Scott χ^2 .

^a M+P+ (both pregnancy intended); ^b M-P- (both pregnancy unintended); ^c M+P- (maternal pregnancy intended, paternal pregnancy unintended); ^d M-P+ (maternal pregnancy unintended, paternal pregnancy intended).

Table 3. Logistic Regression Analysis for Predicting Induced Abortion Among Couple Pregnancy Intention Dyads

Couple Pregnancy Intention Dyads	COR (95% CI)	AOR ^a (95% CI)
M+P+	1.00	1.00
M-P-	*68.5 (31.1–151.1)	*29.5 (5.8–150.0)
M+P-	*9.2 (5.3–15.8)	*5.3 (3.1–9.2)
M-P+	*23.0 (11.7–45.5)	*6.9 (1.5–32.9)

COR, crude odds ratio; AOR, adjusted odds ratio; M+P+ (both pregnancy intended), M-P- (both pregnancy unintended), M+P- (maternal pregnancy intended, paternal pregnancy unintended), M-P+ (maternal pregnancy unintended, paternal pregnancy intended).

^a Estimates controlling for income, raised religion, age of mother-figure at first birth, maternal age at conception, marital status, years of cohabitation.

*Statistically significant.

Table 4. Logistic Regression Analysis for Predicting Induced Abortion by Maternal or Paternal Pregnancy Intention

Pregnancy Intention	COR (95% CI)	AOR (95% CI)
Maternal		
Intended	1.00	1.00
Unintended	*29.5 (13.4 – 65.0)	^a *12.8 (2.2 – 73.6)
Paternal		
Intended	1.00	1.00
Unintended	*12.7 (8.3 – 19.2)	^b *8.6 (5.1 – 14.7)

COR, crude odds ratio; AOR, adjusted odds ratio.

^a Estimate controlling for marital status, years of cohabitation, maternal race/ethnicity, nativity, raised religion.

^b Estimate controlling for marital status, years of cohabitation.

*Statistically significant.

nancy termination from partners (27). These underscore the importance of comprehensive violence prevention and family planning services to decrease the risk of unintended pregnancy.

Study strengths include using a nationally representative dataset to allow greater generalizability of results. The NSFG data utilizes standardized data collection methods and multiple modalities to minimize information bias and improve response rates, especially for sensitive questions. Other strengths include accounting for childhood and paternal characteristics that may affect decisions about pregnancy. Limitations of the study include the inability to determine causation due to the cross-sectional design and recall bias stemming from the reliance on the mother to characterize the intentions of the husband or partner. While research in this area is scant, studies have found good agreement between women's perceptions of partner pregnancy intentions and self-report by partners (11) and accurate reports of husbands' attitudes about fertility (31). Furthermore, irrespective of accuracy, perceptions of paternal pregnancy intention may influence women's health behavior and warrants examination. Underreporting of induced abortions may occur; however, a previous study using the 2002 NSFG data did not find that the duration of time since an abortion affected respondents' recall (32). Uncontrolled confounding due to IPV may have affected the results but was unavailable in the NSFG dataset. Nevertheless, cases where pregnancies were intended by women but unintended by partners may reflect a risk for pregnancy coercion and other forms of IPV (25,33).

Conclusion

A woman's decision to have an induced abortion is influenced by her relationships and the social context within which the pregnancy takes place (6,7). Health providers may need to take into account the circumstances and factors affecting decision-making and health behaviors in couples to reduce unintended pregnancies. While the male partner is not necessary for effective pregnancy care, their role in shaping management decisions should not be overlooked. Women in healthy relationships can benefit from having frequent conversations about pregnancy with their partners. Furthermore, integrated family planning and violence prevention services may be essential to improving the continuum of care and reproductive health outcomes for women.

Ethical Issues

The research was approved as exempt by the Institutional Review Board at Virginia Commonwealth University. This study used a de-identified, publicly-available dataset from the National Center for Health Statistics.

Conflict of Interests

None to be declared.

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Disclosure

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