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Intimate Partner Violence and Effectiveness Level of Contraceptive Selection Post-Abortion

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Abstract

Background: We examined whether experiencing more types of lifetime intimate partner violence (IPV) was independently associated with the effectiveness level of the contraceptive method women chose following an abortion.

Materials and Methods: Using data on 245 women who were attending an urban hospital abortion clinic, we assessed whether women had ever experienced emotional, physical, or sexual IPV. Effectiveness of women's post-abortion contraceptive method selection was categorized into high (intrauterine device [IUD] and implant), moderate (pill, patch, ring, and shot), and low (condoms, emergency contraception, and none) effectiveness. Using multinomial logistic regression, we examined the relationship between number of types of IPV experienced and post-abortion contraceptive method effectiveness, adjusting for sociodemographics, prior abortion, having children, abortion trimester, importance of avoiding pregnancy in the next year, pre-abortion psychological distress, and effectiveness level of the contraceptive method women were planning to use before contraceptive counseling.

Results: Twenty-seven percent (27%) of women experienced two or three types of IPV, 35% experienced one IPV type, and 38% experienced no IPV. Compared to women with no histories of IPV, women who experienced two or more types of IPV during their lifetimes were more likely to choose contraceptive methods with moderate effectiveness (adjusted odds ratio [AOR]=5.23, 95% confidence interval [CI]: 1.13–24.23, $p=0.035$) and high effectiveness (AOR=5.01, 95% CI: 1.12–22.39, $p=0.035$) than those with low effectiveness.

Conclusion: Women who experienced two or more types of lifetime IPV selected more effective contraceptive methods post-abortion. Access to contraceptives that are not partner dependent, including long-acting reversible contraceptives (LARC), may be particularly important for women who have experienced multiple types of IPV.

Keywords: abortion, intimate partner violence, contraception, long-acting reversible contraception

Introduction

INTIMATE PARTNER VIOLENCE (IPV) is behavior within an intimate relationship that causes emotional, physical, or sexual harm to an individual in the relationship.¹ It is a major public health problem in the United States,^{2–4} and in 2015, an estimated 43.6 million women in the United States had experienced sexual violence, physical violence, and/or stalking by an intimate partner.⁵ IPV is a cause of poor health among women of reproductive age and it is linked to a range of immediate and long-term health outcomes, including physical injuries, psychological stress, gastrointestinal disorders, gynecological disorders, sexually transmitted infections, and unintended pregnancies.^{3,4,6,7}

Recent surveillance of contraceptive use in the United States found 60% of all women of reproductive age are currently using contraception and 10% of women at risk of unintended pregnancy are not currently using any contraceptive method.⁸ Contraceptive method effectiveness (low, moderate, and high) is calculated by pregnancy rates during perfect (correct and consistent use) and typical use (incorrect and inconsistent use), and the likelihood of becoming pregnant decreases when women choose more effective contraceptive methods.^{9,10} Therefore, ensuring women have

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access to highly effective contraceptive methods is a public health priority.

Despite national-level surveillance on contraceptive use in the United States, there is limited research on the relationship between IPV and contraceptive choice among women seeking abortions. Research suggests the prevalence of IPV is higher among women having unintended pregnancies and women seeking abortions than other women.^{11–19} Furthermore, women who have abortions are at higher risk of having subsequent unintended pregnancies than women seeking other reproductive health services.²⁰ Understanding contraceptive behaviors among women seeking abortions, particularly among women who have experienced IPV, is important because decision-making about their reproductive health may be influenced by the context of their relationships and experiences with IPV. Additionally, given that 40% of unintended pregnancies end in abortion²¹ and 95% of unintended pregnancies are due to not using contraception or using it incorrectly or inconsistently,²² it is important that we further understand contraceptive decision-making among this population.

Some studies have found women who experience IPV are more likely to choose short-acting contraceptive methods that do not require partner negotiation, and are at increased risk of contraceptive discontinuation, sexually transmitted infections, and having multiple abortions than the general population.^{4,23,24} However, few studies have investigated the association between IPV and contraceptive behaviors among women seeking abortions.^{19,25,26} One study found contraception is difficult to navigate for women seeking an abortion who experience IPV,¹⁹ and another found that women who were currently experiencing IPV were more likely to choose an injectable method (“the shot”) rather than the intrauterine device (IUD) or implant post-abortion, suggesting women who experience IPV may desire contraceptive methods that can be concealed from their partners.²⁵ Another study that assessed contraceptive behaviors among women seeking abortions found IPV experienced in the last six months was a significant predictor of choosing low rather than highly effective contraceptive methods.²⁶ However, none of these studies assessed the different types of lifetime IPV among women seeking abortions and how these types of lifetime IPV impacted their contraceptive decision-making. Additionally, experiencing more types of lifetime IPV could be associated with choosing more effective contraceptive methods or methods that are not partner-dependent. We were interested in finding whether experiencing one or multiple types of lifetime IPV was associated with choosing low, moderate, or highly effective methods post-abortion. Thus, our study had two objectives. First, we explored the relationship between demographic characteristics and women’s experiences with zero, one, or multiple types of lifetime IPV. Then, we examined the association between the number of types of lifetime IPV that women experienced and the effectiveness level of women’s contraception that they selected post-abortion.

Materials and Methods

The current study is a secondary data analysis of a cross-sectional study that was completed between April and September 2010. During that time, women who were seeking surgical abortion services at an urban, academic hospital-based clinic in California were recruited to participate in this study.

Eligibility criteria to participate in the 2010 study included the following criteria: 18 years of age or older, literate in Spanish or English, and seeking an elective abortion for reasons other than a fetal anomaly or a health condition. Participation involved completing two sets of questionnaires during their visit. Women were remunerated with a \$15 gift certificate for their participation.

Before their abortion and after women read through an informed consent form and agreed to participate, participants completed Part 1 of a self-administered survey anonymously on paper and pencil in the clinic waiting room. Part 1 asked women about their sociodemographics, reproductive health and pregnancy history, future pregnancy desires, mental health, history of lifetime IPV, and the contraceptive method they were planning to use in the next 6 months after their abortion. After their contraceptive counseling and abortion, women completed Part 2 of the survey in the clinic on the same day or the day after their abortion, which among other items asked women about the contraceptive method that they had chosen to take home. For more study details, please refer to Steinberg et al.²⁷ Institutional Review Board approval for this study was obtained by the University of California, San Francisco.

Outcome measure: post-abortion contraceptive method effectiveness level

We categorized women’s post-abortion contraceptive method choice into three effectiveness levels, which were based on the typical use failure rate.^{27,28} Part 2 of the survey asked women the following question: “What method(s) of pregnancy prevention are you leaving the clinic with today? If you are going home with more than one, please check all that apply.” Women could choose any of the following response options: implant, mirena (5-year hormone IUD), ParaGard (10-year copper IUD), oral pill, patch, ring, injectable (shot), diaphragm, spermicide or sponge, condoms, emergency contraception, no method, and other (and specify what method). None of the women chose the diaphragm, spermicide, sponge, or other methods. Women who chose the IUD or implant had the method placed before they left the clinic, and women who chose the pill left the clinic with one pack and a 12-month prescription.

Methods with typical use failure rates >10% were coded as 0=low effective methods (no method, male condoms, and emergency contraception).²⁸ Methods with typical use failure rates >1% and <10% were coded as 1=moderately effective methods (pill, patch, ring, or shot).²⁸ The IUD and implant were coded as 2=highly effective methods because the typical failure use rates of these long-acting reversible contraceptive (LARC) methods are <1%.²⁸ If a woman left the clinic with more than one form of contraception, the most effective method she took home was identified as her post-abortion contraceptive method choice.

Exposure measure: number of types of IPV experienced over women’s lifetime

In Part 1 of the survey, women were asked seven questions about how often they experienced different types of lifetime IPV. These items were created based on wording from prior research.^{29–32} The stem for all seven items was “How often has any sexual partner you have had ever done any of the

following to you in your life?" Three items assessed emotional IPV [(1) threatened to leave you, (2) called you names, and (3) sworn at you]; two items assessed physical IPV [(1) beaten you up, thrown something at you, or hit, pushed, slapped, kicked, or choked you, and (2) physically hurt you in some way]; and two items assessed sexual IPV [(1) forced you to have sex, and (2) made you do something sexually that you did not want to do]. Response options were never, rarely, sometimes, often, or very often. To be coded as experiencing a type of violence, women had to respond rarely or more to at least one question in that type of violence. For instance, women who selected rarely or more as their response for any of the three emotional IPV items were coded as having experienced emotional IPV. Women who selected rarely or more as their response for any of the two physical IPV items were coded as having experienced physical IPV, and women who selected rarely or more as their response for any of the two sexual IPV items were coded as having experienced sexual IPV. Similar to other research that has examined the number of types of IPV experienced,^{33,34} we summed the number of types of lifetime IPV women experienced (range was from 0 to 3) and then recoded so the lifetime IPV categories were: 0=no types of lifetime IPV, 1=one type of lifetime IPV, and 2=two or three types of lifetime IPV.

Covariates

Based on the literature, we included covariates of age, self-identified race/ethnicity (White, Black/African American, Hispanic, or other, which included Asian and Native American), education (less than high school, high school, some college, or college graduate or more), marital status (never married, cohabitating, married, or separated/divorced/widowed), having had children (yes or no), having had a previous abortion (yes or no), pregnancy trimester at time of pregnancy termination, perceived importance of avoiding pregnancy in the next year (very important or not very important), pre-abortion psychological distress, and effectiveness level of the main contraceptive method women were originally planning to use after their abortion, but before receiving their post-abortion contraceptive counseling (low: condoms, emergency contraception, or none; moderate: pill, patch, ring, or shot; high: IUD or implant).^{25,27,35} Pre-abortion psychological distress was assessed with the standardized measures of depression,³⁶ anxiety,³⁷ stress,³⁷ and negative affect³⁸ (for more information see Steinberg et al.²⁷). After computing a composite for each measure, we standardized each composite and then summed the standardized composites to create a measure of psychological distress. Then, we created a dichotomous variable that coded whether women were at least one standard deviation above the mean on psychological distress. We assessed the effectiveness level of the main method women were planning to use after their abortion before contraceptive counseling with the following question: What is the main birth control method, if any, that you plan to use in the next 6 months to prevent you from getting pregnant? (Please check only one answer). The possible response options were the same for the outcome measure assessed plus the choices of "pulling out, withdrawal; rhythm method, natural family planning; abstinence (no heterosexual intercourse); tubal ligation (tying your tubes), and partner sterilization (vasectomy). We coded women based on the typical use failure rates of the most effective method they were planning to use after their abortion in the

same manner as for the outcome. Those with typical use failure rates >10% were coded as low effective, those with typical use failure rates >1% and <10% were coded as moderately effective, and those with typical failure rates <1% were coded as highly effective methods.²⁸

Statistical analyses

We first conducted one-way analysis of variances (ANOVAs) and chi-square tests to examine the bivariate relationships between the number of types of IPV experienced during women's lifetimes and the covariates. We then performed unadjusted and adjusted multinomial logistic regression to examine whether experiencing more types of lifetime IPV was associated with choosing more effective contraceptive methods post-abortion. Our outcome was the effectiveness level (low, moderate, or high) of the contraceptive method women chose immediately post-abortion and contraceptive counseling. Our main predictor was our three-level categorical variable of number of types of IPV that women experienced during their lifetimes (none, one, and two or more). We ran two models. Model 1 examined the unadjusted association between number of types of lifetime IPV and post-abortion contraceptive effectiveness level selected. Model 2 adjusted for age, self-identified race/ethnicity, marital status, education level, having a previous abortion, having children, abortion trimester, importance of preventing pregnancy in the next year, pre-abortion psychological distress, and the effectiveness level of the contraceptive method women were planning to take home before their post-abortion contraceptive counseling. We chose low effectiveness level as our base in the multinomial logistic regressions.

Results

In total, 302 women completed Parts 1 and 2 of the survey. We excluded women who were missing on a substantial number of items ($n=20$), women who did not report the contraceptive method they selected to go home with ($n=16$) or the method they were planning to use after their abortion, assessed before their abortion ($n=8$), and women who were missing on psychological distress ($n=13$) or IPV ($n=2$), leaving 243 for analysis. The distributions of race/ethnicity did not differ between women who were included and excluded from analysis ($\chi^2=1.543$, $p=0.674$). The mean ages of women who were included and excluded were also similar (25.26 and 26.13 years, respectively, $p=0.332$). Table 1 presents descriptive statistics and bivariate relationships between the number of types of IPV women experienced during their lifetimes and other study variables. The mean age of women was 25 years and 33.3% identified as Black or African American and 28.8% identified as Hispanic. Of the women, 34.9% ($n=85$) had experienced one type of lifetime IPV, and 27.2% ($n=66$) had experienced two or more types of lifetime IPV. Of the 85 women who experienced only one type of lifetime IPV, 97.6% ($n=83$) experienced emotional violence and 2.4% ($n=2$) experienced physical violence. Of the 83 women who only experienced emotional violence, 27.7% ($n=23$) experienced only one item rarely, and 38.6% ($n=32$) experienced two items rarely or one item sometimes. The remaining 33.7% ($n=28$) experienced some combination of more items rarely or at least one item more frequently than rarely. Only one woman experienced all three items. Of the

TABLE 1. DESCRIPTIVE STATISTICS AND BIVARIATE RELATIONSHIPS BETWEEN THE NUMBER OF TYPES OF INTIMATE PARTNER VIOLENCE WOMEN EXPERIENCED DURING THEIR LIFETIMES AND OTHER STUDY VARIABLES (N=243)

Variable	# of Types of IPV				p Value
	Total sample (n=243)	None (n=92)	1 (n=85)	2 or 3 (n=66)	
Age (mean, SD)	25.3 (5.8)	24.3 (5.8)	24.7 (5.4)	27.3 (5.9)	0.004
Psychological distress (%)					0.112
Yes	16.5	15.2	11.8	24.2	
No	83.5	84.8	88.2	75.8	
Race/ethnicity (%)					0.084
White	18.1	12.0	21.2	22.7	
Hispanic	28.8	30.4	28.2	27.3	
Black or African American	33.3	32.0	40.0	25.8	
Other	19.8	25.0	10.6	24.2	
Education (%)					0.742
Less than high school	14.8	13.0	14.1	18.2	
High school graduate	25.5	31.5	23.5	19.7	
Some college	47.7	44.6	49.4	50.0	
College graduate or more	11.9	10.9	12.9	12.1	
Marital status (%)					0.187
Married	7.0	5.4	10.6	4.6	
Cohabiting	27.6	23.9	31.8	27.3	
Divorced or separated	9.1	8.7	4.7	15.2	
Never married	56.4	62.0	52.9	53.0	
Number of prior abortions (%)					0.116
None	39.9	46.7	42.4	27.3	
1	24.3	21.7	28.2	22.7	
2	18.9	18.5	12.9	27.3	
3	7.8	7.6	8.2	7.6	
4 or more	9.1	5.4	8.2	15.2	
Number of children (%)					0.521
None	40.7	46.7	40.0	33.3	
1	28.4	28.3	31.8	24.2	
2	18.1	15.2	16.5	24.2	
3	6.2	4.3	4.7	10.6	
4	3.7	3.3	4.7	3.0	
5 or more	2.9	2.2	2.4	4.6	
Very important to avoid pregnancy (%)					0.178
Yes	70.4	34.8	30.6	21.2	
No	29.6	65.2	69.4	78.8	
Abortion trimester (%)					0.836
First	39.9	40.2	37.7	42.4	
Second	60.1	59.8	62.4	57.6	
Main method plan to use in next 6 months (assessed before contraceptive counseling) (%)					0.549 ^b
Low effectiveness	14.8	15.2	15.3	13.6	
Condoms	10.7	12.0	9.4	10.6	
No method	4.1	3.3	5.9	3.1	
Moderate effectiveness	56.4	59.8	52.9	56.1	
Oral contraceptive pill	24.3	27.2	16.5	30.3	
Transdermal patch	7.4	8.7	5.9	7.6	
Vaginal ring	4.5	3.3	5.9	4.6	
Injectable (DMPA) shot	20.2	20.7	24.7	13.6	
High effectiveness	28.8	25.0	31.8	30.3	
Tubal ligation ^a	3.3	2.2	3.5	4.6	
Contraceptive implant	3.7	3.3	1.2	7.6	
Intrauterine device	21.8	19.6	27.1	18.2	
Method selected (assessed after contraceptive counseling and abortion) (%)					0.200 ^b
Low effectiveness	15.2	19.6	17.6	6.1	
Condoms	9.9	15.2	10.6	1.5	
Emergency contraception	0.4	1.1	0.0	0.0	
No method	4.9	3.3	7.1	4.6	

(continued)

TABLE 1. (CONTINUED)

	# of Types of IPV				p Value
	Total sample (n = 243)	None (n = 92)	1 (n = 85)	2 or 3 (n = 66)	
Moderate effectiveness	42.0	40.2	42.4	43.9	
Oral contraceptive pill	20.6	23.9	14.1	24.2	
Transdermal patch	4.1	4.3	3.5	4.6	
Vaginal ring	4.1	2.2	4.7	6.1	
Injectable (DMPA) shot	13.2	9.8	20.0	9.1	
High effectiveness	42.8	40.2	40.0	50.0	
Contraceptive implant	4.1	4.3	3.5	4.5	
Intrauterine device	38.7	35.9	36.5	45.5	

Chi-square tests were used for categorical variables and one-way ANOVA was performed for age. Some totals do not sum to 100 due to rounding. Significance level for categories of low, moderate, and high effectiveness levels (bold numbers) for contraceptive method women were planning to use and the contraceptive method they selected were 0.874 and 0.175, respectively.

^aTubal ligation could be the most effective method they were thinking to use post-abortion before contraceptive counseling; however, tubal ligation was not a method the woman could take home.

^bRelationship between number of types of lifetime IPV experienced and contraceptive method effectiveness level.

SD, standard deviation; ANOVA, analysis of variance; IPV, intimate partner violence; DMPA, depot medroxyprogesterone acetate.

66 women who experienced two or more type of violence, 50% ($n=33$) experienced emotional and physical violence, 10.6% ($n=7$) experienced emotional and sexual violence, and 39.4% ($n=26$) experienced emotional, physical, and sexual violence. There were significant differences in women's contraceptive method choices before and after contraceptive counseling, with more women choosing highly effective methods (IUD, implant) than had originally intended (42.5% vs. 28.6%, $p \leq 0.005$; data not shown). Bivariate analyses revealed that age was significantly different across the number of types of lifetime IPV that women experienced, as expected with greater exposure to the risk of IPV ($p \leq 0.005$).

In the unadjusted (model 1) and adjusted models (model 2), women who experienced one type of lifetime IPV were no more likely than women without IPV histories to choose moderately or highly effective contraceptive methods. In the unadjusted model, compared to women who did not experience any IPV, women who experienced two or three types of lifetime IPV were significantly more likely to choose contraceptive methods of moderate (odds ratio [OR]=3.53, 95% confidence interval [CI]: 1.08–11.56, $p=0.037$) and high (OR=4.01, 95% CI: 1.23–13.07, $p=0.021$) effectiveness levels than methods of low effectiveness (Table 2). After adjustment for covariates, women who experienced two or three types of lifetime IPV were more likely to choose moderately effective (OR=5.23, 95% CI: 1.13–24.23, $p=0.035$) and highly effective methods (OR=5.01, 95% CI: 1.12–22.39, $p=0.035$).

Discussion

These results indicate that women who had experienced two or three types of lifetime IPV during their lifetimes were more likely to select moderately and highly effective contraceptive methods post-abortion than methods of low effectiveness, independent of the effectiveness level of the method women were originally planning on taking home before their post-abortion contraceptive counseling. Our finding that there was no significant difference in contraceptive method effective-

ness between individuals who experienced one type of lifetime IPV and those without histories of IPV indicates that certain combinations of types of IPV—specifically, emotional plus physical or sexual violence—influence contraceptive decision-making instead of emotional violence alone.

As observed in other studies, the prevalence of IPV among women undergoing abortions appeared to be greater than the national prevalence of IPV among women.^{11–16} Strengths of our study are the focus on lifetime experiences of IPV as well as the number of types of lifetime IPV that women experienced, which was not considered in previous studies. Although current IPV can influence current decision-making, including contraceptive use, the influence of IPV can persist long after the violence has stopped,¹ and this could explain our observed findings. Our study is also noteworthy because some previous studies that included lifetime histories of violence did not distinguish IPV from childhood abuse.²³ Furthermore, our adjusted analyses controlled for the effectiveness level of the method women were planning to take home before their post-abortion contraceptive counseling.

A noteworthy finding was the difference in contraceptive choices women in our study made compared to women in the United States of reproductive age who are currently using contraception. In our study, more women chose the patch or ring (8.2% vs. 2.6%), the shot (13.2% vs. 4.5%), or LARC (42.8% vs. 11.6%) and fewer women chose oral contraceptive pills (20.6% vs. 25.9%), respectively.³⁹ In our study, we examined what method women took home after their post-abortion contraceptive counseling, which was not limited by cost barriers because of a state-funded program that funds contraception.⁴⁰ The ability to have the IUD inserted that day as well as the removal of cost barriers and access challenges could have influenced women's choice of LARC methods.

Limitations of our study include a small convenience sample and unique setting, which limit the generalizability of our findings and influenced our CIs. Because of the small sample size, we were unable to examine whether specific combinations of violence—emotional and sexual versus emotional and physical violence—were differentially associated with effectiveness level of contraceptive method chosen. We were also

TABLE 2. MULTINOMIAL LOGISTIC REGRESSION ANALYSES, SHOWING RELATIONSHIP BETWEEN NUMBER OF TYPES OF LIFETIME INTIMATE PARTNER VIOLENCE EXPERIENCED AND EFFECTIVENESS LEVEL OF CONTRACEPTIVE METHOD SELECTED POST-ABORTION (N=243)

	Model 1		Model 2	
	Moderate vs. low	High vs. low	Moderate vs. low	High vs. low
# of types of IPV experienced				
0	1.00	1.00	1.00	1.00
1	1.17 (0.51, 2.66)	1.10 (0.48, 2.52)	1.32 (0.46, 3.81)	0.69 (0.23, 2.01)
2 or 3	3.53* (1.08, 11.56)	4.01* (1.23, 13.07)	5.23* (1.13, 24.23)	5.01* (1.12, 22.39)
Age			0.97 (0.88, 1.07)	0.95 (0.86, 1.05)
Race				
White			1.00	1.00
Black			1.10 (0.25, 4.91)	1.67 (0.39, 7.17)
Hispanic			1.00 (0.23, 4.31)	1.00 (0.24, 4.15)
Other			2.04 (0.38, 10.88)	0.66 (0.12, 3.70)
Marital status				
Never married			1.00	
Cohabiting			4.61* (1.12, 18.93)	6.41* (1.53, 26.97)
Married			2.21 (0.28, 17.74)	3.44 (0.40, 29.73)
Separated/Div/Wid			0.58 (0.10, 3.39)	1.50 (0.25, 9.14)
Education level				
<High school			1.00	
High school graduate			0.39 (0.07, 2.37)	0.46 (0.07, 2.85)
Some college			0.25 (0.05, 1.35)	0.52 (0.10, 2.87)
College graduate			0.18 (0.02, 1.53)	0.34 (0.04, 2.82)
Had a previous abortion				
No			1.00	1.00
Yes			2.91* (1.01, 8.38)	3.17* (1.11, 9.07)
Has children				
No			1.00	1.00
Yes			0.46 (0.13, 1.61)	0.31 [‡] (0.09, 1.10)
Abortion trimester				
First			1.00	1.00
Second			0.44 (0.16, 1.22)	0.90 (0.32, 2.54)
Very important to avoid pregnancy in next year				
No			1.00	1.00
Yes			1.91 (0.69, 5.30)	2.76 [‡] (0.99, 7.74)
Psychological distress				
No			1.00	1.00
Yes			1.51 (0.34, 6.81)	2.54 (0.60, 10.73)
Contraceptive method effectiveness level planning to use in next 6 months (assessed before counseling)				
Low			1.00	1.00
Medium			25.61** (7.44, 88.11)	4.38 (1.33, 14.45)**
High			2.79 (0.47, 16.43)	30.30 (7.92, 126.93)**

Multinomial logistic regression models with low effective methods as the reference category. Model 1 is unadjusted. Model 2 is adjusted for all covariates. Numbers are multinomial odds ratios. Low effectiveness is condoms, emergency contraception, or no methods. Medium effectiveness is pill, patch, ring, or shot. High effectiveness is intrauterine device or implant.

* $p < 0.05$, ** $p < 0.01$, [‡] $p < 0.10$.

unable to get more specific regarding whether the frequency or number of items endorsed within each type of lifetime IPV was associated with effectiveness level of contraceptive method selected. Future research could examine specific combinations of IPV, frequency of type of IPV, or number of experiences of each type of IPV. In addition, lifetime histories of IPV are subject to recall or social desirability bias, which could have influenced our results.

Women who experience IPV are at increased risk of unintended pregnancy and women who have abortions are at high risk of future unintended pregnancies.^{3,4,23,27} Therefore,

understanding the contraceptive choices women make following an abortion, particularly those choices among women who have experienced IPV, is an important need in public health research. Our findings reveal that when cost and access barriers were removed, women who experienced multiple types of lifetime IPV chose more effective contraceptive methods post-abortion, which indicates a strong intention to avoid future pregnancies. Additionally, nearly 90% of women who had experienced multiple types of lifetime IPV chose methods that did not require partner negotiation (*i.e.*, not selecting male condoms, for example). This observation

reflects the findings of Gee et al.,¹⁹ which suggest women who have experienced IPV may be best protected from unintended pregnancy by using contraceptive methods that are not partner dependent. Most research has found IPV is associated with increased sexual risk taking behaviors and decreased contraceptive use.²⁴ However, our findings differ by Vafai and Steinberg,²⁶ who found current IPV (experienced in the previous 6 months) was associated with choosing low rather than highly effective contraceptive methods post-abortion. Therefore, the timing of IPV may influence reproductive decision-making, including contraceptive method selection and use, differently. This relationship should be examined in future studies.

We found the prevalence of lifetime IPV to be high in our sample of women seeking abortion services, and women who experienced two or more types of lifetime IPV were more likely to choose moderately or highly effective contraceptive methods after their abortions. In addition, more women chose highly effective methods following their abortion and contraceptive counseling than originally intended. For these reasons, policies should ensure that women who seek abortion services receive contraceptive counseling and that they have access to highly effective contraceptive methods in family planning settings.

Conclusions

The current study strengthens our understanding of the importance of access to LARC and moderately effective contraceptive methods for women who are undergoing abortions; however, we found this access is particularly important for women who are seeking abortions and have experienced multiple types of lifetime IPV. Future research is needed to better understand the effect of IPV on contraceptive use, including reproductive coercion, among women seeking abortions.

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