GENERAL GYNECOLOGY

Power over parity: intimate partner violence and issues of fertility control

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OBJECTIVE: The purpose of this study was to examine the association between intimate partner violence (IPV), abortion, parity, and contraception use.

STUDY DESIGN: We recruited 1463 women for this written questionnaire study of IPV. Patient demographics, contraceptive history, and reproductive history were obtained in the waiting room from patients presenting for gynecologic care.

RESULTS: Seventy percent of those eligible participated. Twenty-one percent reported a history of IPV. Partner unwillingness to use birth control, partner desirous of conception, partner creating difficulty for subject's use of birth control, and subjects expressing inability to afford contraception were all positively associated with report of IPV. Each additional pregnancy was associated with 10% greater odds of IPV (95% confidence interval, 1.03-1.17).

CONCLUSION: Contraception is more difficult to navigate for women experiencing IPV. Providers should consider prescribing contraceptive methods for IPV victims that are not partner dependent.

Key words: abortion, contraception, intimate partner violence, multiparity

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In their first annual survey of intimate partner violence (IPV) in 2005, the Centers for Disease Control (CDC) reported data from 16 states and 2 territories and reported a lifetime IPV prevalence of 23.6% among American women.[1] IPV is defined by the CDC as threatened, attempted, or completed physical or sexual violence. IPV has an enormous public health impact in the United States and is responsible for 2 million injuries each year, 1300 deaths, and $5.8 billion spent on mental and physical health costs and lost productivity.[2]

Several studies from Canada, New Zealand, and China indicate that seeking abortion is a risk factor for IPV.[3-6] For example, 1 Canadian study reported that women having 3 or more abortions had nearly a 3-fold increase in the odds of having a history of IPV than women having 2 or fewer abortions.[7] Data from the United States, although more sparse, also indicate a higher than expected rate of IPV among women seeking abortion. A 1996 study interviewing 51 women having abortions found that 31% had a history of IPV, much higher than the national average.[8] In 1998, a questionnaire of 486 women seeking abortion in 1 US clinic found an even higher IPV prevalence (39.5%).[9] The authors of this study hypothesized that the issues of fear and control affecting abused women may influence their ability to prevent unwanted pregnancies; however, they had no data to support the claim.

In this study, using a large cohort of women, we examine the association between IPV, abortion, parity, and contraception use to further understand the relationship between IPV and reproductive history. Our aim was to further identify clinical factors associated with IPV. In addition, we wanted to identify intervention points that might be helpful in minimizing IPV and undesired fertility. Given that women in abusive relationships may experience a lack of sense of control, we hypothesized that contraceptive choices might be different between women who have experienced IPV and those who have not.

Materials and Methods

We surveyed women at the Philadelphia centers of Planned Parenthood Southeastern Pennsylvania in 2 sites: a surgical abortion clinic and a general gynecologic clinic. Planned Parenthood was chosen, because it is the only high-volume provider of abortion services and gynecologic care in the city of Philadelphia.

We developed a 31-item questionnaire asking about IPV, contraceptive knowledge and use, reproductive health history, and demographics. For questions on violence, we used the CDC's Behavioral Risk Factor Surveillance System (BRFSS) IPV module.[9] BRFSS is the

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TABLE 1
Characteristics of women with and without a history of intimate partner violence

Characteristic	History of violence (n = 291)	No history of violence (n = 1096)	χ^2, *P* value
Age, n (%)			
18-24	132 (45.4)	571 (52.1)	
25-34	136 (46.7)	449 (41.0)	.130
35-44	22 (7.6)	66 (6.0)	
45-54+	1 (0.3)	10 (0.9)	
State from, n (%)			
Pennsylvania	278 (95.5)	1053 (96.3)	
New Jersey	6 (2.1)	19 (1.7)	.865
Other	7 (2.4)	21 (1.9)	
Race			
Black	78 (26.8)	253 (23.1)	
White	158 (54.3)	676 (61.7)	.322
Other	55 (18.9)	167 (15.1)	
Education			
0-8th grade	2 (0.7)	6 (0.6)	
9-11th grade	38 (13.1)	117 (10.7)	
High school graduate/GED	85 (29.2)	409 (37.3)	.144
Some college/Associate degree	106 (36.4)	359 (32.8)	
College graduate or higher	60 (20.6)	205 (18.7)	
Who do you live with?			
Husband	16 (5.5)	85 (7.8)	
Parents	65 (22.3)	322 (29.5)	
Boyfriend	44 (15.1)	208 (19.0)	.002
Live alone	38 (13.1)	122 (11.2)	
Other	128 (44.0)	356 (32.6)	
Work status			
Working	127 (43.9)	552 (50.5)	
Student	79 (27.3)	308 (28.2)	.057
Out of work	73 (25.3)	209 (19.1)	
Other	10 (3.5)	25 (2.3)	
Number of pregnancies			
0	95 (32.7)	445 (40.6)	
1	29 (10.0)	118 (10.8)	.003
2	49 (16.8)	182 (16.6)	
≥ 3	118 (40.6)	351 (32.0)	

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world's largest, ongoing annual telephone survey and is a random-digit–dialed telephone survey of the noninstitutionalized, US civilian population aged 18 years and older.[10] We chose the BRFSS screening tool since it has been extensively used by other researchers and enables us to compare our patient characteristics and IPV rates to those of the general population.[11] The IPV module contained 5 questions related to lifetime IPV victimization: (1) Has an intimate partner ever threatened you with physical violence? This includes threatening to hit, slap, push, kick, or hurt you in any way; (2) Has an intimate partner ever attempted physical violence against you? This includes times when he tried to hit, slap, push, kick, or otherwise hurt you but was not able to; (3) Has an intimate partner ever hit, slapped, pushed, kicked, or hurt you in any way?; (4) Have you ever experienced any unwanted sex by a current or former intimate partner?; and (5) In the past 12 months, have you had any physical injuries, such as bruises, cuts, scrapes, black eyes, vaginal or anal tears, or broken bones, as a result of this physical violence or unwanted sex?

In addition to the IPV questions, we asked about patient demographics (age, race, education completed, current employment status, and state of residence), living situation, reproductive history (number of pregnancies and number of abortions), and contraceptive history. We also asked about issues of partner control of and unwillingness to use contraception. The survey was pilot tested for clarity and readability on 30 patients at our target clinic prior to administration and took approximately 10 minutes to complete.

Questionnaires were distributed between July-December 2007, during standard clinic operating hours. Questionnaires were distributed by Planned Parenthood staff, no incentives were provided, and participation was optional. Women who presented to the clinic with a male partner were told to fill out the questionnaire in a separate part of the clinic in order to minimize the chance that a partner would influence the answers on IPV questions or put the respondent at risk. Women were given a

tear-off page at the end of the survey with contact numbers for domestic violence hotlines in Philadelphia. Women over 18 were sampled, because the institutional review board (IRB) required us to obtain parental signatures from women 17 and younger, and parents were not required to be at the clinical visit. The survey was approved by the University of Pennsylvania IRB, as well as the Planned Parenthood Federation of America and the Family Planning Council of Southeastern Pennsylvania.

We recruited 1463 women, so that our study would have adequate power to detect increases in rates of intimate partner violence based on the number of abortions. Based on prior research, half of the women presenting for abortion were expected to be having a repeat abortion.[12,13] We included women receiving gynecological care to capture women who never had an abortion. We asked people to characterize their race/ethnicity. If an individual indicated more than 1 race, she was characterized as multiracial. Our study is powered to detect an approximately 7% difference in IPV rates between those having an abortion and those who did not have an abortion, with 80% power and type I error rate of 5%, assuming a baseline IPV rate of 20% in those with no abortions.

Lifetime IPV prevalence estimates were based on whether the respondent indicated experience with any of the IPV measures (threatened, attempted, or completed physical violence or unwanted sex) with a current or former partner. This is the same definition that is employed by the CDC.[14] We used this scoring mechanism, so that we could directly compare our rates to national rates obtained by the CDC for the same question module.

We first ran descriptive statistics to determine characteristics of survey respondents. χ^2 and Fisher exact tests were used to assess differences in patient characteristics between women who experienced IPV and those who did not. A multivariable logistic regression model was used to assess the association between IPV and a number of independent predictors. We included all covariates that were found on univariable analysis to have a P value of $< .10$. In addition, we included the covariate "Type of Care" in the model, because of our a priori hypothesis of its relevance despite it not meeting the model entrance criteria. We did not include both number of pregnancies and number of abortions in the multivariable model, due to their high degree of collinearity (correlation coefficient, 0.73). All tests were 2-tailed, and a P value $< .05$ was considered to be statistically significant. All analyses employed SAS version 9.1 (SAS Institute, Cary, NC).

TABLE 1
Characteristics of women with and without a history of intimate partner violence *(continued)*

Characteristic	History of violence (n = 291)	No history of violence (n = 1096)	χ^2, P value
Number of abortions			
0	153 (52.6)	655 (59.8)	
1	77 (26.5)	247 (22.5)	.020
2	30 (10.3)	121 (11.0)	
≥ 3	31 (10.7)	73 (6.7)	
Type of care			
Abortion care	195 (67.0)	726 (66.2)	.805
Routine gynecology	96 (33.0)	370 (33.8)	

GED, general equivalency diploma.

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RESULTS

Of the 2103 women 18 years and older who were seen in the clinic during the study, 1463 (70%) completed the survey. The response rates were greater in the general gynecology clinic (488/602; 81%) than the abortion clinic (975/1501; 65%) ($P < .0001$). We excluded 33 women who completed questionnaires and were less than 18 years of age and another 76 women who did not answer the IPV questions, leaving 1354 questionnaires for evaluation in our final analysis.

A history of IPV was reported by 291 women (21.0%). The majority of respondents were young, from Pennsylvania, black, and had at least some college education. Most respondents had not had a prior abortion. Table 1 describes the frequencies of patient characteristics by whether or not the respondent had experienced IPV. Age, race, the patient's home state, and education were not associated with IPV. However, women who reported living alone (13.1% vs 11.2%) or with someone other than their parents, husband, or boyfriend (44.0% vs 32.6%) were more likely to report having experienced IPV. Women who were out of work had a higher rate of violence than working women. There was no difference in rates of violence between women presenting for abortion or gynecologic care.

In regard to contraceptive characteristics, the vast majority of respondents had used a contraceptive and used either the birth control pill or condom. Table 2 shows the frequencies of violence related to contraceptive factors and the associated χ^2 P values. Women who experienced IPV were more likely to report a lack of birth control use because of partner unwillingness to use birth control or wanting the respondent to get pregnant. They were more likely to agree with the statement: my partner makes it difficult to use birth control. They were more likely to go without birth control, skip birth control because they could not afford it, and to have used emergency contraception.

The numbers of pregnancies and abortions were also significantly associated with IPV. In univariable analysis, each additional pregnancy was associated with 11% greater odds of IPV and

TABLE 2
Contraceptive characteristics of women with and without a history of intimate partner violence (IPV)

Variable	History of violence (n = 291)	No history of violence (n = 1096)	χ^2, *P* value
Ever used a contraceptive? n (%)			
Yes	277 (96.2)	1012 (93.4)	.082
No	11 (3.8)	71 (6.6)	
Use a condom, n (%)			
No	148 (50.9)	591 (53.9)	.352
Yes	143 (49.1)	505 (46.1)	
Birth control method used recently, n (%)			
Birth control pill	61 (21.1)	281 (25.9)	
Condom	101 (35.0)	357 (32.9)	
Depo-Provera	22 (7.6)	70 (6.5)	
Implanon or IUD	4 (1.4)	18 (1.7)	.330
Rhythm or withdrawal	29 (10.0)	90 (8.3)	
Plan B	19 (6.6)	46 (4.2)	
None	53 (18.3)	222 (20.5)	
In the last 4 months have you gone without birth control? n (%)			
Yes	202 (70.9)	698 (64.5)	.042
No	83 (29.1)	385 (35.6)	
If you had sex without using your birth control method, why? n (%)			
Forgot, didn't have it with you, or didn't feel like using it	81 (30.1)	328 (32.7)	
Didn't think you would get pregnant	27 (10.0)	117 (11.7)	< .001
Other/does not apply	111 (41.3)	474 (47.2)	
You wanted to get pregnant	5 (1.9)	24 (2.4)	
Your partner didn't feel like using it or wanted you to get pregnant	45 (16.7)	61 (6.1)	
Have you heard about or used emergency contraception? n (%)			
I have heard of it but have never used it	125 (43.1)	566 (51.9)	
I have not heard of it	18 (6.2)	74 (6.8)	.023
I have taken EC in the past	127 (43.8)	404 (37.0)	
I took EC to prevent this pregnancy	20 (6.9)	47 (4.3)	
When in the cycle is a woman at risk for pregnancy? n (%)			
During her period	12 (4.2)	46 (4.2)	
Two weeks before her period	142 (50.0)	521 (47.8)	.906
A few days before her period	65 (22.9)	270 (24.8)	
Don't know	65 (22.9)	252 (23.1)	
My partner makes it difficult to use birth control, n (%)			
Disagree	203 (70.0)	948 (87.4)	
No opinion	48 (16.6)	87 (8.0)	< .001
Agree	39 (13.5)	50 (4.6)	

Gee. Power over parity: IPV and issues of fertility control. Am J Obstet Gynecol 2009. *(continued)*

TABLE 2
Contraceptive characteristics of women with and without a history of intimate partner violence (IPV) *(continued)*

Variable	History of violence (n = 291)	No history of violence (n = 1096)	χ^2, *P* value
Skipped using birth control, because I can't afford it, n (%)			
Disagree	197 (68.2)	860 (79.5)	
No opinion	41 (14.2)	117 (10.8)	< .001
Agree	51 (17.7)	105 (9.7)	

Depo-Provera; Pfizer Inc., New York, NY; Implanon; Schering Corp., Kenilworth, NJ.
EC, emergency contraception; *IUD*, intrauterine device.

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each abortion with a 16% increase in the odds. Due to issues of collinearity, we could not include the number of pregnancies and the number of abortions in the multivariable model. In multivariate regressions adjusting for all variables associated with IPV at $P < .10$, except the number of pregnancies, the number of abortions was borderline significant (data not shown).

Table 3 shows the results of our multivariate analysis. Living alone appears to increase the risk of IPV over living with a husband, with marginal statistical significance ($P = .05$). Being out of work was significant. Another economic factor, skipping birth control because "I can't afford it," was associated with violence. Regarding contraceptive factors, partner factors, such as partner unwillingness to use birth control or wanting respondent to get pregnant and agreeing with the statement: my partner makes it difficult for me to use birth control, conferred the highest odds of reporting IPV. Interestingly, having taken emergency contraception, especially to prevent a current pregnancy, was associated with a history of violence. In multivariate analysis, each additional pregnancy conferred 10% greater odds of IPV.

Comment

We hypothesized that practicing contraception would be significantly more difficult for women with a history of violence, because of partner unwillingness to use contraception. We found that agreeing with the statements: my partner makes it difficult for me to use birth control and I had sex without using birth control, because my partner didn't want to use it or wanted me to get pregnant, was highly predictive of violence. In addition, these women were more likely to have used after-the-fact emergency contraception either in the past or to prevent a current pregnancy and were more likely to be multiparous. These factors speak to the lack of control women experiencing IPV have in a relationship and the difficulty they have negotiating contraception.[13]

Women seeking gynecologic care had a higher response rate in our study than women seeking abortions. This may have been due to the fact that women in the abortion clinic were required to have a chaperone present, because of the surgical procedure, and may have felt less comfortable filling out the questionnaire.

Previous authors have postulated that contraceptive use may be more difficult for women experiencing violence, leading to a higher incidence of unintended pregnancy.[15,16] Our results support this contention. Not only was IPV associated with partner control over contraception, it was associated with number of pregnancies and in univariable analysis with number of abortions.

Clearly, when faced with a woman who is experiencing IPV, the most important step for a provider is to try to prevent further violence. Offering access to shelters, safe retreats, and counseling services are all well-established and important means of helping women.[17,18] However, women frequently take time before they are willing to leave violent relationships.[19-22] In addition to violence prevention, we feel it is important to help women in violent relationships plan their pregnancies and identify modifiable risk factors for abortion and unintended pregnancy. Providing access to long-acting nonpartner-dependent birth control, such as progesterone injections, contraceptive implants, or intrauterine contraceptives (IUC), would allow women in abusive relationships to make reproductive decisions separate from their violent partner.

We found that inability to pay for contraception was also highly predictive of IPV. This finding is consistent with other studies demonstrating that financial independence for women is highly correlated with decreased violence.[23-25] Whether this finding represents lack of control of finances in a relationship, or true poverty, is unclear. Whatever the cause, our research indicates that simply providing access to nonpartner-dependent birth control methods may not be sufficient for these women to control their reproductive lives but that these methods may need to be provided at low cost. We did not measure desire to avoid conception in our sample; however, given that the majority of pregnancies were being terminated, one can assume the majority were unintended.

In terms of living situation, we do not have further information about women who selected the response "other." Further studies might be done to understand the typical living situation of such individuals, such as whether these are single mothers living alone with children. Interestingly, we found a lower prevalence of IPV than the national average from the BRFSS sample (21.0% vs 26.4%).[26] This finding was not explained by the lower age of our cohort and persisted in all age groups. It is unclear why this was

TABLE 3
Multivariate odds ratios associated with intimate partner violence (IPV)

Variable	Odds ratio	95% CI
Type of care		
Abortion	1.00	
Routine	1.05	(0.74-1.48)
Who do you live with?		
Husband	1.00	
Parents	1.16	(0.58-2.31)
Boyfriend	1.33	(0.65-2.70)
Live alone	2.10	(1-4.42)[a]
Other	1.84	(0.96-3.54)
Work status		
Working	1.00	
Student	1.43	(0.99-2.04)
Out of work	1.58	(1.09-2.30)
Other	1.84	(0.76-4.47)
In the last 4 months have you gone without birth control?		
No	1.00	
Yes	1.16	(0.81-1.66)
If you had sex without using your birth control method, why?		
Forgot, didn't have the method, or didn't feel like using	1.00	
Didn't think you would get pregnant	1.00	(0.6-1.66)
Other/does not apply	0.99	(0.7-1.41)
You wanted to get pregnant	1.11	(0.4-3.11)
Your partner didn't want to use it or wanted you to get pregnant	2.34	(1.41-3.89)[a]
Have you heard about or used emergency contraception?		
I have not heard of it	1.00	
I have heard of it but have never used it	1.28	(0.67-2.44)
I have taken EC in the past	1.75	(0.91-3.36)
I took EC to prevent this pregnancy	3.04	(1.31-7.09)[a]
My partner makes it difficult to use birth control		
Disagree	1.00	
Neither agree nor disagree	2.09	(1.35-3.24)
Agree	2.78	(1.68-4.63)[a]
Skipped using birth control, because I can't afford it		
Disagree	1.00	
Neither agree nor disagree	1.30	(0.82-2.05)
Agree	2.02	(1.32-3.08)[a]
Number of pregnancies		
Each additional pregnancy	1.10	(1.03-1.17)[a]

CI, confidence interval; *EC*, emergency contraception.

[a] Significant result.

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the case. Women at the abortion clinic undergoing anesthesia are required to have an escort and are more likely to be accompanied by a family member. One possibility is that women having abortions underreported violence due to fear of a partner's presence. However, we found that the rates of IPV were also lower than the BRFSS sample in the cohort of women who were recruited from routine gynecological care, where 21.1% of women reported IPV. Our population was younger than the BRFSS sample and therefore may have had less exposure time for IPV.

We did not assess the intendedness of pregnancies, given that the majority of women in our sample were having abortions; however, this information would have been interesting. In addition, it would have been preferable to have more information about the patient's financial situation other than simply work status. Ideally, we would have been able to have an area completely separate from the waiting room for women to fill out responses; instead, clinic staff asked women presenting with a partner to the clinic to fill out the responses in a separate area. Our population, though similar to the national BRFSS sample, was younger and slightly less educated and was slightly racially different, with a lower percentage of black respondents (comparative data not shown).

Despite the lower prevalence rates of IPV in our cohort, rates were still high. All forms of intimate partner violence are repugnant, and it is disturbing to see such high rates of IPV across all ages, races, and levels of education, although we know that with violence so prevalent, no woman is immune. We hope that the results of this survey will encourage women's health care providers to ask about IPV among all patients but especially those who are multiparous. In these situations, helping women with fertility control may be 1 way to help empower them. To help prevent unintended pregnancies and make contraception easier for women in violent relationships, providers should consider assisting women to obtain low-cost or subsidized contraceptive methods and help them to choose methods that are

not partner dependent, such as long-acting contraceptive injections, implants, or IUCs, while women are navigating the treacherous roads of abuse. ■

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