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Intimate Partner Violence, Sexual Autonomy, and Postpartum STD Prevention among Young Couples: A Mediation Analysis

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Abstract

Context—Transitioning to parenthood is a stressful time for young couples, which can place these couples at risk for postpartum STDs. Intimate partner violence (IPV) might be a risk factor for STDs among young couples by diminishing their sexual autonomy.

Methods—Between 2007 and 2011, 296 young couples (N=592) recruited from U.S.-based obstetrics/gynecology clinics were followed prospectively from baseline (pregnancy), 6-months, and 12-months postpartum. Retention rates for females were 76% and 88% at 6- and 12-month follow-up, respectively; and 66% and 76% for males, respectively. Participants reported IPV (baseline and 6-months), sexual communication and condom use self-efficacy (6-months), and STD diagnosis (12-months). Structural equation modeling was used to assess the associations between IPV and sexual autonomy latent variable with postpartum STDs. Mediation was tested with bootstrapping.

Results—For females, IPV victimization at baseline related to having a postpartum STD, and higher sexual autonomy related to having no postpartum STD and having a *male partner* with no postpartum STD (coefficient, 0.39, −0.35, and −0.37). For males, IPV victimization at baseline related to lower *female* sexual autonomy and having a *female partner* with no postpartum STD, and IPV victimization at 6-months related to higher female sexual autonomy, (−0.34, −0.67, and 0.19). Sexual autonomy did not mediate ($ps>0.05$).

Conclusions—IPV may be a risk factor for female postpartum STDs and female's sexual autonomy may protect against postpartum STDs for both partners. Future intervention research

could test the efficacy of violence-informed approaches to women's sexual health and strength-based approaches that bolster female's autonomy.

Keywords

Adolescents; Couples; Gender-Based Violence; STDs; United States

Background

Implementing effective STD prevention for pregnant and parenting adolescents is a public health priority. Within a year, more than a third (39%) of adolescent mothers have an incident STD compared to (10%) among non-pregnant adolescents.¹ Acquiring an STD during pregnancy and postpartum can cause serious health issues for women and their children including pregnancy complications such as ectopic pregnancies, stillbirths, prematurity, developmental issues with the infant,² and post-delivery complications such as puerperal endometritis.³

The risk of STD acquisition appears greatest for young pregnant and parenting couples involved in poorly functioning relationships compared to young couples in well-adjusted relationships.^{4,5} Intimate partner violence (IPV) victimization, a risk factor for STD acquisition,⁶⁻⁸ is prevalent among adolescents and young adults^{9,10} and may also be an indicator of a poorly functioning relationship. IPV victimization may relate to STD acquisition by negatively impacting one's sexual autonomy, the ability and control to make decisions about one's sexual life¹¹ and the ability to communicate sexual wishes and boundaries.¹²

Despite the prevalence of postpartum STDs among pregnant adolescents and its associated health consequences, to our knowledge, no known study has examined IPV victimization as a risk factor for postpartum STDs and sexual autonomy as a mechanism. Further, while the sexual health implications of IPV has been well-studied, the experiences of young pregnant and parenting couples are rarely acknowledged. This is concerning as adolescents may become pregnant as a result of IPV victimization,¹³ young pregnant and parenting couples are an at-risk group for IPV,¹⁴ and young mothers report physical IPV victimization before and during pregnancy more than older mothers.¹⁵ Greater understanding of the relationships between IPV victimization and sexual autonomy with postpartum STD acquisition among young pregnant and parenting couples is needed in order to inform program initiatives on sexual health.

Introduction

Previous research supports a strong positive association between IPV and STD susceptibility and acquisition.^{7,16} Male partners who perpetrate IPV are more likely to have concurrent sexual partners and inconsistent condom use,^{17,18} and have an STD.¹⁹ Also, experiencing IPV victimization is associated with sexual risk behaviors.²⁰ This increased risk may occur in situations when engagement in risk behaviors are coerced²¹ or poor mental health related to IPV affects one's ability to advocate for sexual needs.²²

For young couples, the postpartum period can be a delicate and stress-inducing time, and the social and emotional changes occurring during this period make it critically important to understand the relationship between IPV victimization and STD acquisition. For example, stress experienced during the postpartum period is associated with IPV and substance use and these behaviors relate to lower condom use self-efficacy.¹ Also, young couples often experience relationship dissolution, sometimes as a result of IPV, and acquiring a new sexual partner during postpartum is associated with incident STDs for adolescent parents.⁵ Understanding if IPV victimization is associated with postpartum STD acquisition among young pregnant and parenting couples and identify potential indirect pathways is key for STD prevention programs, especially since biological changes associated with pregnancy heighten women's susceptibility to STDs.¹

Sexual autonomy may be an indirect pathway linking IPV victimization and postpartum STD acquisition among young pregnant and parenting couples. Experiences of IPV victimization may negatively affect sexual autonomy, and lead to STD acquisition. For example, women who experience IPV victimization qualitatively describe limited opportunities and ability to sexually express themselves in their relationships, which may lead to poor sexual health like STDs.²³ Similarly, adolescents in abusive relationships may also feel a lack of control over their sexual health, especially if they are fearful of partner retaliation or unable to negotiate safe sex practices.²⁴ This fear and lack of control may make it difficult to practice safe sex, resulting in STD susceptibility and acquisition. Further exploration is needed to understand the role of sexual autonomy among young pregnant and parenting couples with and without IPV victimization experiences since some research supports sexual autonomy as a modifiable determinant in sexual health interventions.²⁵ Building upon previous research on sexual risk among dyads,²⁶ the current study examines individual and *partners* experiences of IPV victimization and sexual health longitudinally. This investigation seeks to understand if and how IPV victimization relates to the sexual health among young pregnant and parenting couples; and whether these associations are similar for women and men. We hypothesized that: a) IPV victimization will be associated with lower sexual autonomy for females and males; b) lower sexual autonomy will be associated with a postpartum STD for females and males; c) IPV victimization will be associated with a postpartum STD for females and males; and d) sexual autonomy will mediate the association between IPV victimization and postpartum STD such that females and males who experience IPV victimization are more likely to have lower sexual autonomy, and lower sexual autonomy relates to a STD during the postpartum period.

Methods

Study Design

Participants and Procedure—Analyses for the current study were conducted using baseline, 6-month, and 12-month follow-up data from a prospective cohort study examining the impact of relational factors on the health of pregnant adolescents and their male partners.⁴ Participants were recruited from obstetrics and gynecology clinics in four university-affiliated hospitals in three urban cities located in the northeast region of the United States between July 2007 and February 2011. Participants were screened by trained research

assistants and if eligible, they were provided information on the study and the research staff answered any questions. Participants were screened at varying times in the visit based on the availability of the participant and the busyness of the clinic, but usually while the participant was waiting to be called by their provider or immediately after the appointment. If either the biological father or mother was absent during the screening process, research staff asked for permission to contact their partner to explain the study.

The inclusion criteria were: (a) expectant women in their second or third trimester, (b) females between the age of 14–21 years old and male partners aged at least 14 years, (c) both partners report being the biological parents of the unborn baby and in a romantic relationship with each other, (d) both partners agreed to participate in the study, and (e) able to speak English or Spanish. An initial run-in period was conducted as part of the eligibility criteria and participants were deemed ineligible if they were unable to be re-contacted after screening and before their estimated due date. The research staff obtained written informed consent at the baseline interview. Participants are able consent to medical care for themselves and their child and thus parental consent was not required. Participants completed structured interviews by audio computer-assisted self-interviews. Participants were remunerated \$25 and provided with a list of community resources including those for employment, mental health treatment, and violence-related services at the end of the interview. The study clinics and host institution's Institutional Review Boards approved all procedures.

A total of 296 couples (N=592 participants) were enrolled in the prospective study. The participation rate for the longitudinal study was 72%. Of the 592 participants, 225 females (76%) and 196 males (66%) completed their 6-month follow-up (203 dyads); and 261 females (88%) and 226 males (76%) completed their 12-month follow-up (235 dyads). There were no statistically significant differences between participants who did and did not complete follow-up interviews on the sociodemographic, IPV, and STD variables (all *p*-values were greater than 0.05).

Measures

Intimate Partner Violence (IPV) Victimization: Victimization and perpetration were assessed at the baseline (ever) and 6-months postpartum interview (in the past six months). Participants were asked two physical abuse items (e.g., shoved, punched) and one psychological aggression item (i.e., swear at you or call you names) from the revised Conflict Tactics Scale-2,²⁷ and five sexual abuse items (e.g., used force to make them have sex) from the Sexual Experiences Survey.²⁸ Participants were asked about their own victimization (e.g., if their partner used the behavior towards them) and their own perpetration (e.g., if they used the behavior towards their partner). Participants responded to each item as Yes (1) and No (0). At the baseline interview, the item wording was anchored to the current partner (i.e., has the father or mother of your baby ever). The female and male reports of victimization and perpetration were used to create an upper-bound estimate (i.e., IPV occurred as long as it was reported by at least one partner). Four sum scores were created by summing the responses: Female IPV victimization and baseline and 6-months postpartum and Male IPV Victimization at baseline and 6-months postpartum. Significant

correlations showed congruence (female's victimization and male's aggression at baseline: $r = 0.14$; $p < .01$; female's aggression and male's victimization at baseline: $r = 0.17$; $p < .01$; female's victimization and male's aggression at 6-months postpartum: $r = 0.28$; $p < .001$; female's aggression and male's victimization at 6-months postpartum: $r = 0.24$; $p < .001$).

Sexual Autonomy Latent Indicators: Three indicators assessed at the 6-month interview were used: sexual communication, condom use assertiveness, and condom use despite partner's disapproval. The *sexual communication* latent indicator was assessed using four items from a 7-item investigator-developed scale.⁴ Participants indicated the frequency of their communication with their intimate partner about general sexual topics like sexual satisfaction (e.g., "I tell my partners what I like sexually" and "I ask my partners what they like sexually") in the past six months. The frequency of the communication was rated on a scale ranging from 1 (Never) to 5 (Very Often). A total score was computed by summing item responses, with higher scores indicating high sexual communication. Internal consistency was good (Cronbach's $\alpha = 0.92$). The *condom use assertiveness* and *condom use despite partner's disapproval* latent indicators were assessed using eight items from the Condom Use Self-Efficacy Assertive and Partner's Disapproval subscales.²⁹ Participants were asked their ability to persuade their partner to use a condom (e.g., I feel confident in my ability to suggest using condoms with a partner) and their use of a condom with their partner's approval (e.g., If I were to suggest using a condom to a partner, I would feel afraid that he/she would reject me). Participants were asked to rate these items on a scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). A total score was created by summing item responses, with higher scores indicating high assertiveness and ability to use condoms against partner's wishes. Internal consistency was good for these indicators (Cronbach's α for condom use assertiveness = 0.80 and condom use despite partner's disapproval = 0.81). Significant correlations between female's and male's latent indicators shows congruence (condom use assertiveness: $r = 0.17$, $p < .01$; condom use despite partner's disapproval: $r = 0.13$, $p < .05$; and sexual communication: $r = 0.17$, $p < .01$).

STD Diagnosis: STD diagnoses were assessed at the baseline and 12-month interviews. Laboratory testing was conducted for Chlamydia trachomatis and Neisseria gonorrhoeae at the interviews using urine-based nucleic-acid amplification tests.³⁰ Urine samples were collected during study visits and analyzed at a laboratory. For self-report, participants reported whether a provider told them they had one of the following STDs (i.e., Chlamydia trachomatis, Neisseria gonorrhoeae, genital herpes, genital warts or HPV, hepatitis, or Syphilis). Two summary variables were created for females and males: 1) History of STDs (yes to a self-report STD diagnosis ever in their lifetime at the baseline interview) and 2) Postpartum STD Diagnosis (yes to a lab-tested positive for STD diagnosis or self-report at the 12-month interview). Previous research has validated self-report among adolescent and young populations, suggesting strong concordance between self-report and lab-tested STD diagnoses.³¹ The concordance between postpartum self-report and lab-tested was adequate ($r = 0.35$, $p < .001$ for females and $r = 0.24$, $p < .001$ for males).

Sociodemographics were self-reported including age (in years), race and ethnicity, gender, relationship status (i.e., in a relationship with the mother or father of baby at the 12-month

interview) and sexual partner concurrency (i.e., in a concurrent sexual relationship at the 12-month interview).

Data Analysis—Descriptive statistics (frequencies, means, and standard deviations) were computed to describe the sample and McNemar chi-square and paired *t* tests were used to assess differences between female and male partners. Dyadic data is interdependent (i.e., females and males nested within dyads), and Pearson correlations were used to measure agreement and non-independence within distinguishable dyads.³² Descriptive analyses were conducted in SAS 9.4.

Structural equation modeling is useful for studying dyads³² and was used to assess: 1) a sexual autonomy measurement model for both females and males, 2) the direct effects of IPV and sexual autonomy, and 3) the mediating effects of sexual autonomy. Structural equation modeling was conducted in Mplus 7.0.

Sexual autonomy is currently a poorly measured phenomenon and modeling it as a latent variable may be useful. Latent variables explain relationships between observed variables that, together, represent a larger concept.³³ Consistent with one of the very few quantitative studies on sexual autonomy,³⁴ our sexual autonomy latent variable is based on research demonstrating a positive association between sexual autonomy, condom use self-efficacy,³⁵ and sexual communication among adolescents and young adults.¹² Also, our model examines sexual autonomy at the individual-level for both females and males in order to take into account research suggesting that external factors such as pressure to adhere to gender norms, shape behaviors differently for women and men.³⁶ Standard goodness of fit statistics for confirmatory factor analysis were used to determine the model's fit: factor loadings 0.40.³⁷ Factor loadings represents the strength of the relationship of the observed indicator (e.g., sexual communication) to the latent variable (i.e., sexual autonomy). Good fit of the measurement model indicates that the model represents the observed data well. Tests of normality were conducted to examine the condom use self-efficacy scores for females and males for skewness. The condom use self-efficacy scores were not skewed and the scores remained continuous. Measurement invariance was also tested to ensure that the underlying construct was equivalent for women and men.

Next, the Actor-Partner Interdependence Model (APIM) was used to assess the direct effects. APIM accounts for interdependence within dyads and estimates both actor effects (i.e., female's IPV victimization on female's sexual autonomy) and partner effects (i.e., female's sexual autonomy on male's postpartum STD acquisition) in a single analysis.³² Female and male exogenous variables were correlated to account for interdependence (e.g., female's IPV victimization correlated with male's IPV victimization). Paths to sexual autonomy and postpartum STDs were controlled for covariates (i.e., age, race and ethnicity, relationship status with mother or father of the baby, history of STDs, and sexual partner concurrency). Covariates were chosen due to their statistical significance at the $p < .10$ level between females and males (Table 1) or based on previous research.¹ Full information maximum likelihood estimation was used to estimate the parameter values for the postpartum STD models because it allows missing data at the postpartum interviews to be

estimated.³⁸ Good fit was determined by: 1) a root mean square error of approximation < 0.08, and 2) a comparative fit index and Tucker-Lewis index = 0.90.³⁹

Lastly, the mediating effects of sexual autonomy were tested while controlling for covariates. The significance of the mediating effects was assessed using 5,000 bootstrapped samples to obtain standard error estimates and were significant with a $p < .05$.

Results

Female and male participants differed on age, race and ethnicity, sexual partner concurrency, history of STDs, IPV victimization at baseline and 6-months, and self-efficacy to assert condom use. On average, females were younger than males (18.7 vs. 21.3 years). The sample was African-American (40% females; 48%, males), Hispanic (40% females; 36% males), White (20% females; 11% males), and Other race (4% females; 4% males). Males were more likely to have a concurrent sexual partner (9% vs. 5%) than females. Females were more likely to report a history of STDs (34% vs. 18%). Males reported a slightly higher average of IPV experiences compared to females at baseline (1.5 vs. 1.0) and 6-months postpartum (0.9 vs. 0.7). Females had a higher average of self-efficacy to assert condom use (4.1 vs. 3.9) compared to males. Female and male participants did not differ on relationship status with mother or father of baby and postpartum STD diagnosis (Table 1). The majority of females (83%) and males (82%) were in romantic relationship with the father or mother of the baby at the 12-month interview.

Fit statistics for the female's and male's sexual autonomy latent variable and the structural equation model suggests an excellent fit. The structural model accounted for 53% and 59% of the variance in female's and male's postpartum STD, respectively.

Table 2 displays the direct and indirect effects of the structural model. Four actor and partner effects were significant (Figure 1). Females who experience IPV victimization at baseline were more likely to report a postpartum STD ($B=0.39$) and report IPV victimization at 6-months postpartum ($B=0.25$). Males who experience IPV victimization at baseline were involved with a female partner who did not have a postpartum STD ($B=-0.67$) and more likely to report IPV victimization at 6-months postpartum. Males who did not experience IPV victimization at baseline were more likely to be involved with a female partner who had higher sexual autonomy ($B=-0.34$). Males who experience IPV victimization at 6-months postpartum were more likely to be involved with a female partner with high sexual autonomy ($B=0.19$). Females with higher sexual autonomy were less likely to: report a postpartum STD ($B=-0.35$) and be involved with a male partner that reported a postpartum STD ($B=-0.37$). Additionally, there was no evidence to support mediation by sexual autonomy on the association between IPV victimization and postpartum STD for females and males.

Discussion

To our knowledge, this is one of the first studies to examine associations of IPV victimization and sexual autonomy with postpartum STDs among young pregnant and parenting couples. Although mediation was not supported, our findings provide evidence

that IPV victimization and sexual autonomy are associated with postpartum STD acquisition. In particular, IPV victimization for females was associated with having a postpartum STD. Moreover, IPV victimization for males was associated with a *female partner* having *no* postpartum STD and lower sexual autonomy. Additionally, sexual autonomy for females was associated with a reduced likelihood of having a postpartum STD for both females and males. These findings suggest that IPV victimization is a potential risk factor for postpartum STDs for females; and conversely, female's sexual autonomy may protect both dyad members from being diagnosed with STDs. Programs for young parenting couples should address the importance of healthy, nonviolent relationships and encourage couples to strengthen female's sexual autonomy.

There is a complex, gendered relationship between IPV victimization and sexual autonomy among young parenting couples. Contrary to previous research, one's own IPV victimization did not relate to one's own sexual autonomy. Further, males who did not experience IPV at baseline were involved with female partners with higher sexual autonomy; while males who experience IPV victimization during the six-month postpartum period were more likely to have a female partner with higher sexual autonomy. These findings may be indicative of the role of healthy relationships for young pregnant and parenting couples. Healthy relationships that are non-violent may create environments for young parenting females to express their sexual autonomy within the first six months of giving birth. However, female partners who perpetrate IPV in the six-months postpartum period may be expressing their sexual self and needs more than their male partner.

Female's sexual autonomy was negatively associated with postpartum STD for females and males. Romantic partners can influence each other's sexual health,⁴ and our findings suggest that parenting adolescent and young adult relationships that support female's ability to express her sexual self may experience a reduced risk of STD. Our finding supports and expands upon previous research demonstrating that women who exercised more autonomy about household decisions were more influential on the timing of sexual intercourse⁴⁰ and strong adherence to traditional attitudes around gendered expectations of sexual behavior are associated with low sexual autonomy and self-esteem among women.⁴¹ Thus, it is possible that parenting adolescent and young adult females in egalitarian relationships may be able to exhibit their sexual autonomy and feel empowered as their social status in their relationship is valued. Parenting adolescent and young adult females with higher sexual autonomy may also be engaging in conversations with their partners about their sexual needs and wishes, leading to more closeness and stronger relationships. This is key as poor relationship functioning has been related to important determinants of STDs such as partner concurrency.⁴ These findings are promising steps but to better understand the influence of sexual autonomy, future research is needed to develop a validated and reliable sexual autonomy scale.

Our findings also suggest that female's and males' IPV victimization differentially female's risk for STD acquisition in the postpartum period. IPV victimization was positively associated with postpartum STDs for young parenting females, which is consistent with previous research among non-parenting adolescents.⁴² Young parenting females may be involved in relationships with abusive male partners who are engaging in risky sexual

behaviors. Another potential explanation relates to the Theory of Gender and Power,⁴³ such that gender-based power imbalances can place women who experience abuse at greater risk for STDs.⁴³ Young parenting females who experience IPV may fear partner retaliation for requesting safer sex practices, which may result in condom nonuse. Further, sexual IPV such as forced or coerced sex can also increase her susceptibility to STDs. Moreover, for parenting males, IPV victimization was associated with a female partner with no postpartum STD. This should not be interpreted as male's IPV victimization is a protective factor for female's STD risk in the postpartum period. Instead, it is possible that parenting females who use violence are not engaging in risky sexual behaviors in the postpartum period. These gendered differences in IPV victimization and STD acquisition may be clarified by research on gendered forms of STD risk behaviors. Males who use IPV report more gendered STD risk behaviors such as concurrent partners and coerced condom non-use because men's use of IPV can reflect gender-based power imbalances.^{17,44} Social norms about masculinity and femininity can support men's use of IPV because some masculine norms advocate for men's control and dominance over women.⁴⁴ However, these social norms would not support women's use of IPV against a male partner nor women's engagement in gendered STD risk behaviors. It may be useful for future research to explore associations and mechanisms linking female perpetration of IPV and STD risk behaviors.

These findings should be interpreted in light of limitations. The current study relied on self-reported data for IPV, which is subject to under-reporting due to social desirability. Our study used an upper-bound estimate for IPV victimization (i.e., an IPV event happened as long as one partner reported it) to help reduce potential social desirability bias effects since couples tend to disagree on IPV occurrences,⁴⁵ and reports of IPV may be lower among young adolescents.⁴⁶ Also, the congruence assessments for IPV were statistically significant but the strength of the associations were low. Future research is needed develop additional measures for dyadic reporting of IPV among young couples. The data used for the analyses are older than five years. Therefore, some caution should be taken when interpreting these findings as there may have been shifts in adolescents risk and prevalence of STDs that are not taken into account in our data. Our analyses did not account for past experiences of violence. Future research should explore associations of past experiences of violence with couple's sexual health because past victimization may impact current health behaviors within couples. Our model used a sexual autonomy latent variable as opposed to a reliable, validated scale. Future research should develop a scale that captures sexual autonomy for both females and males. Finally, postpartum STD acquisition was low (10%) and some caution should be taken when interpreting these findings.

Conclusions

Results from our study supports clinical screening guidelines, and provides some potential target areas for couples-based, behavioral STD interventions. The U.S. Preventive Services Task Force recommends STD screening for females aged 24 and younger, including pregnant women.⁴⁷ Continued efforts are needed to screening young pregnant and parenting couples for STDs during the prenatal and postnatal visits. In addition to STD screening, routine IPV screenings during the prenatal visits are critical. The U.S. Preventive Services Task Force recommends clinicians screen women of childbearing age for IPV and refer to

intervention services.⁴⁸ These screenings may help to identify young pregnant females at risk for STD acquisition in the postpartum period, and who may benefit from other sexual and reproductive health services. Further, young pregnant females may benefit from trauma-informed care, woman-centered care that accounts for confidentiality, connects her to resources, and protects her.⁴⁹ Also, sexual autonomy is an important yet understudied concept for young pregnant and parenting couples. Given the protective nature of sexual autonomy, the effectiveness of couple-based behavioral STD interventions may be enhanced if interventions take a strength-based approach. In particular, behavioral interventions can help young couples find ways to increase and promote female's sexual autonomy. One way is to promote gender equitable and egalitarian attitudes and practices among young parents, possibly in group education settings and parenting programs.⁵⁰ Also, behavioral interventions could align more with the strength-based approaches to sexual health in core competencies for adolescent sexual and reproductive health.⁵¹ This strength-based approach is based in the understand that: 1) all youth have expandable strengths and assets; 2) respecting youth is key; and 3) avoid the use of fear-based messaging for adolescent sexual health.⁵¹ Promoting and increasing young parenting couples' capacity to freely express their sexual self and foster nonviolent practices with their partner is a promising step for STD prevention programs.

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FIGURE 1. Standardized coefficients (and standard errors) from structural equation models assessing pathways among young couples' IPV victimization, sexual autonomy and STD acquisition within 12 months after a birth

TABLE 1

Selected characteristics of participants in a study of postpartum STD acquisition among young couples attending obstetrics and gynecology clinics in four urban hospitals in the U.S. Northeast, 2007–2011

Characteristic	Female (N=296)	Male (N=296)
Age**		
Mean	18.7 (1.63)	21.3 (4.06)
Range	14–21	14–60
Race/ethnicity**		
Black	40	48
White	16	11
Hispanic	40	36
Other	4	4
Had concurrent partners at 12 months*	5	9
Ever had an STD at baseline**	34	18
Mean number of IPV victimization experiences (range, 0–8)		
At baseline**	1.0 (1.12)	1.6 (1.38)
At six months**	0.7 (1.04)	0.9 (1.18)
Mean scores reflecting sexual autonomy at six months (range, 1–5)		
Sexual communication	3.3 (1.29)	3.5 (1.23)
Condom use assertiveness*	4.1 (0.91)	3.9 (0.97)
Condom use despite partner's disapproval	4.1 (0.87)	4.1 (0.87)
Had relationship with mother/father of baby at 12 months	83	82
STD diagnosis at 12 months	10	8

*
p<.05.

**
p<.01.

Notes: Figures are percentages unless noted otherwise. Figures in parentheses are standard deviations. Percentages may not add to 100 because of rounding. Follow-up periods are measured from the birth. IPV=intimate partner violence.

TABLE 2

Coefficients (and standard errors) from structural equation models assessing direct and indirect associations among young couples' IPV victimization, sexual autonomy and STD acquisition within 12 months after a birth

	Female Postpartum STD		Male Postpartum STD		Female Sexual Autonomy		Male Sexual Autonomy	
	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect
	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)
Baseline								
Female IPV Victimization	0.39 (0.18) *	-0.18 (0.15)	0.14 (0.21)	-0.19 (0.14)	0.19 (0.13)		0.25 (0.18)	
Male IPV Victimization	-0.67 (0.30) *	0.30 (0.22)	-0.37 (0.28)	0.32 (0.21)	-0.34 (0.16) *		-0.40 (0.23)	
6-Months Postpartum								
Female IPV Victimization	0.08 (0.15)		0.11 (0.13)		-0.14 (0.09)		-0.10 (0.16)	
Male IPV Victimization	0.25 (0.18)		0.16 (0.15)		0.19 (0.08) *		0.28 (0.15)	
Female Sexual Autonomy	-0.35 (0.16) *		-0.37 (0.18) *					
Male Sexual Autonomy	-0.45 (0.30)		-0.50 (0.27)					
R ²	0.53		0.59					

Note. The model controlled for female and male covariates: race, age, history of STD, being in a romantic relationship with mother or father of baby at the 12-month follow-up, and sexual partner concurrency at the 12-month follow-up. Empty cells correspond to either untested paths or the relationships were correlations and not regression coefficients. IPV = Intimate partner violence;

* p<.05,

**

p<.01,

p<.001.

The fit statistics for female's and male's sexual autonomy latent variable: RMSEA = 0.05; CFI = 1.00; and TLI = 1.00. The fit statistics for the structural equation model was: RMSEA = 0.02; CFI = 0.99; and TLI = 0.98.