

Intimate Partner Violence and Contraceptive Behaviors among Young Women*

Yasamin Kusunoki, Jennifer S. Barber, Heather H. Gatny, and Robert Melendez

University of Michigan

*Corresponding author: Yasamin Kusunoki, University of Michigan, Population Studies Center, Institute for Social Research, 426 Thompson St., Room 2214, Ann Arbor, MI, 48106-1248, kusunoki@umich.edu. This research was supported by two grants from the National Institute of Child Health and Human Development (R01 HD050329, R01 HD050329-S1, PI Barber), a grant from the National Institute on Drug Abuse (R21 DA024186, PI Axinn), a population center grant from the National Institute of Child Health and Human Development to the University of Michigan's Population Studies Center (R24 HD041028), and a training grant to the first author from the Michigan Institute for Clinical and Health Research (grant number 2UL1TR000433-06 from the National Center for Advancing Translational Sciences (NCATS)). The authors gratefully acknowledge the Survey Research Operations (SRO) unit at the Survey Research Center of the Institute for Social Research for their help with the data collection, particularly Vivienne Outlaw, Sharon Parker, and Meg Stephenson. The authors also gratefully acknowledge the intellectual contributions of the other members of the original RDSL project team, William Axinn, Mick Couper, and Steven Heeringa, and the National Advisory Committee for the project, Larry Bumpass, Elizabeth Cooksey, Kathie Harris, and Linda Waite.

ABSTRACT

This paper examines the effects of intimate partner violence (IPV) on young women's contraceptive behaviors, using new, longitudinal data from a weekly journal-based study of 1003 18-19 year old women spanning two and half years. We use these dynamic data to investigate hypotheses about the dynamic processes of IPV and how they relate to young women's contraceptive use, consistency of use, and the specific method of contraception used, with a focus on three time-dimensions of IPV: IPV in the current week, a history of IPV with the current partner, and a history of IPV with prior partners. We find that young women used less contraception, and used it less consistently, during *weeks* in which they experienced violence, and more generally, with *current partners* who were ever violent. Violence was associated with less pill and condom use, and more withdrawal. Although women experiencing violence have higher rates of IUD use than those not experiencing violence, IUD use is very low among both populations. The finding that violence in the current week as well as a history of violence with that partner differentiated use, consistency, and method, whereas a history of violent partners did not, suggests that it is more about what is going on that week or in that woman's current relationship than it is about this woman having a history of violent partners and/or being someone who gets into violent relationships, etc. Violent relationships increase the risk of unintended pregnancy because they involve notably less, less consistent, and less effective contraceptive use.

Intimate Partner Violence and Contraceptive Behaviors among Young Women

Violence between intimate partners is a significant health problem and an important social issue among adolescents and young adults. Approximately one-third of young people have experienced some form of violence by an intimate partner (Halpern et al., 2001), although estimates vary widely due to differences in operational definitions of violence and sample selection. Further, the risk of unintended pregnancy and sexually transmitted infections (STIs) increases as a result of the difficulties negotiating contraception within the context of these violent relationships (Buelna et al., 2008; Coker, 2007; de Bocanegra et al., 2010; Gazmararian et al., 2000; Rosen, 2004; Wingood et al., 2001).

Experiences within the specific relationship, such as violence, are likely to be key determinants of contraceptive use. Intimate partner violence has been consistently linked to a lack of or inconsistent use of contraception (Bogart et al., 2005; El-Bassel et al., 2005, Wingood et al., 2001; Wu et al., 2003), and to differential method choice (CIR, 2010; de Bocanegra, 2010; Williams et al., 2008). However, the majority of these studies are cross-sectional, leaving the field with limited information about the temporal ordering of the association between violence and contraception and no information about the dynamic nature of this association. This past research proposes several explanations for why violence may influence contraceptive behaviors. Women may not use contraception because they fear violence that may occur as a result of their use or negotiation of use. For instance, those who reported a history of dating violence were more likely to fear the perceived consequences of negotiating condoms or discussing pregnancy prevention (Wingood et al., 2001). Violent partners may attempt to control or sabotage contraceptive efforts; common examples include partners promising to withdraw and then not doing so, refusing to use a condom, exaggerating the side effects of pill use to discourage use,

throwing away pills, etc. (CIR, 2010; de Bocanegra, 2010; Jones, 2010; Moore et al., 2010).

Women may switch to methods that are more easily hidden from their violent partners, such as injections versus pills (CIR, 2010; de Bocanegra, 2010).

We draw on new, innovative longitudinal data from the Relationship Dynamics of Social Life (RDSL) study, which has unprecedented prospective detail on both violence and contraceptive use. This will allow us to disentangle reciprocal relationships between violence and contraception. In addition, we are interested in which time dimension of violence is most important, that is, past research has shown that there is a negative association between violence and contraception, but is it about violence that is most proximate to the sex act, is it more about a history of violence with the partner with which the sex occurs and not necessarily what happened that week, or is it about being a person who has a history of violence in past relationships?

DATA AND METHODS

Data

The RDSL study began with a representative, random, population-based sample of 1,003 young women, ages 18-19, residing in a Michigan county. The sampling frame was the Michigan Department of State driver's license and Personal Identification Card (PID) database.

The first component of data collection was a baseline face-to-face survey interview conducted between March 2008 and July 2009, assessing sociodemographic characteristics, attitudes, relationship characteristics and history, contraceptive use, and pregnancy history. The most innovative aspect of the RDSL study design was the second component of data collection – dynamic, prospective measurement of pregnancy desires and pregnancy, as well as relationship characteristics such as commitment, sex, and contraceptive use, collected in weekly five-minute survey interviews via phone or a website. At the conclusion of the baseline interview,

respondents were invited to participate in the weekly surveys for a two and a half year period. Of the 1,003 women who completed the baseline interview, 95% participated in the weekly surveys (N=953). Respondents were paid \$1 per weekly journal with \$5 bonuses for on-time completion of five weekly surveys in a row.

The follow-up concluded in January 2012, resulting in 57,602 weekly interviews. 84% of baseline survey respondents participated in the journal-based portion of the study for at least 6 months, 79% for at least 12 months, and 75% for at least 18 months. We refer to the period between surveys as a week, as shorthand, even though it may vary from 5 to 13 days. The mode was 8 days.

We restrict analyses to weeks in which the respondent was in a relationship, had sex with her partner, was not pregnant, and was not “strongly pronatal” (i.e., strong desire to become pregnant and no desire to avoid pregnancy) (N=711 women and N= 12,008 weeks). While a respondent could have been using a non-coital contraceptive method during weeks when she was not in a relationship¹, the focus of the present study is on the violence within relationships, and only respondents who were in a relationship were asked questions about violence in their relationship, and only respondents who had sex with their partner were asked about coital-specific contraceptive methods. In addition, because we examine multiple outcomes, the specific analytic sample depends on the outcome. We describe the specific sample for each outcome below.

Measures

In every weekly interview, respondents identified their most important partner “in the past --- days (since [date of last interview])”. Note that “partner” refers to anyone the respondent

¹ Respondents were not in a relationship but reported using a non-coital method during nine percent of weeks.

considers “special” or “romantic”, *or* anyone she has had sexual contact with during the prior week, which could include a texting “pen-pal”, a one-night stand, a fiancée, or anything in-between. Respondents provided initials for new partners and chose prior partners from a list. Thus, the data include a continuous record of the respondent’s entire relationship history during the study period. All relationship and contraceptive measures referenced the past week (or period since the last journal if the period was more than one week but less than 13 days).

Outcomes – Contraceptive Behaviors

We investigate three measures of contraception: *any contraceptive use*, *consistency of contraceptive use*, and *specific contraceptive method used*. *Any contraceptive use* indicated whether the respondent “used or did anything that can help people avoid becoming pregnant, even if you did not use it to keep from getting pregnant.” *Consistency of contraceptive use* indicated whether the respondent or her partner “used some method of birth control every time you had intercourse.” Only weeks of any contraceptive use are included when examining *consistency of contraceptive use* (N=698 women and N=10,824 weeks). *Specific contraceptive method used* was based on several questions about non-coital and coital-specific methods. Respondents who answered affirmatively to using any method were then asked about specific non-coital methods: birth control pills, birth control patch, NuvaRing, Depo-Provera or any other type of contraceptive shot, implant such as Implanon or another contraceptive implant, IUD, or rhythm (“avoided having sex because you thought it was a time of month you could get pregnant”). Respondents who reported having sex during the past week, were also asked whether they used a condom, diaphragm or cervical cap, spermicide, a female condom, or withdrawal (“did your partner withdraw before ejaculating”). The contraceptive method type measure included the following mutually exclusive categories: (a) *IUD, implant, or Depo-Provera*

(referred to as *LARC* hereafter), (b) *birth control pills, birth control patch, or NuvaRing* (referred to as *Pill* hereafter), (c) *condom*, and (d) *withdrawal*.² For weeks in which multiple methods were used, priority was given to the more effective method for pregnancy prevention (e.g., weeks of condom and birth control pills were coded as *Pill*). Only weeks of any contraceptive use where the specific contraceptive method was reported (i.e., not missing) and was not *other* (e.g., spermicide only) are included when investigating *specific contraceptive method used* (N=693 women and N=10,742 weeks).³

Intimate Partner Violence

During the relationship section of the weekly journal, respondents were asked, “Did you and [Partner Name] fight or have any arguments” during the period since the last journal.

Respondents who answer yes were then asked about three specific types of conflict: 1) whether the partner swore at the respondent, called her names or insulted her, 2) whether the partner threatened her with violence, and/or 3) whether the partner pushed, hit, or threw something at her that could hurt.

For the analyses presented here, violence is conceptualized as a measure of severity from no violence, to fighting or arguing only, to insulted or disrespected, to threatened with violence, to actual physical violence, that is being physically hurt (hit, throw, etc). Priority was given to the more severe, for instance, if insulted and physically hurt, it was coded as physically hurt. IPV in the *current week* is included in the models as a mutually-exclusive categorical variable that ranges from 0 to 4: (0) none, (1) fought or argued only, (2) insulted or disrespected, (3) threatened, or (4) physically hurt. IPV by a *current partner* is an average of that variable which

² Preliminary analyses included separate categories for each method type but the results did not differ for the methods included in *LARC* or for those included in *Pill*, therefore they were combined for the sake of parsimony.

³ Less than one percent of weeks were missing on the type of contraceptive method used or involved an “other” type of method only (e.g., spermicide); due to small cell sizes, these weeks were excluded.

ranges from 0-4 for every week with the current partner excluding the current week. IPV by a *prior partner* is an average of that variable for every week with all partners other than the current partner.

Controls – Relationship Characteristics

We control for relationship seriousness and partner characteristics. The distributions of these measures among the analytic sample are included in Table 1. Seriousness is operationalized as the current relationship type and length of the current relationship. Current relationship type is a summary measure comprised of several questions about marriage and engagement, cohabitation, commitment, and time spent together. In the beginning of the relationship section, a respondent was asked if she was still married or engaged to her current partner if she was with the same partner as the previous week. If she was not with the same partner, she was asked if she was married or engaged to her current partner. Cohabitation was based on a question that asked the respondent whether “you have a place you live that is separate from where your partner lives”; a negative response indicated that she and her current partner were living together that week. Commitment was based on a question about whether the respondent and her current partner “agreed to only have a special romantic relationship with each other, and no one else”. Time spent together indicated whether the respondent reported having “spent a lot of time” with her current partner. Current relationship type included the following mutually exclusive categories: (a) causal – uncommitted and less time-intensive, (b) dating – uncommitted but more time-intensive, (c) “long distance” – committed but less time-intensive, (d) serious - committed and more time-intensive, (e) cohabiting, and (f) married or engaged. This measure is hierarchical according to the level of seriousness; in other words, priority was given to the more serious “state” of marriage and engagement, then cohabitation, then commitment, and finally

time spent together. For instance, the dating category includes weeks in which the respondent and her current partner were not married or engaged, not living together, not committed, but had spent a lot of time together. The reference category for current relationship type is the least serious type, i.e., causal. Length of the relationship is a measure of the total time in a relationship with the current partner. It includes all spells with the current partner (e.g., time with the partner before a break up and after reconciliation if a break up occurred). It is coded in months.

Current partner characteristics include age and educational differences between the respondent and her partner and whether the partner has children that are not the respondents. Age difference is a categorical measure that includes the following categories: (0) partner is the same age or younger than the respondent, (1) partner is 1-2 years older than the respondent, (2) partner is 3-5 years older than the respondent, or (3) partner is 6 or more years older than the respondent. Educational difference is a dichotomous measure indicating that the partner has more years of education than the respondent. A dichotomous measure indicating that the partner has other children that are not the respondent's is also included.

Controls - Individual Characteristics

Two sets of individual characteristics, as of the baseline interview, are included as controls: (a) sociodemographic background and (b) adolescent experiences (prior to the study) related to pregnancy. The distributions of these measures among the analytic sample are included in Table 1.

Age was taken from the state-level driver's license and personal ID card records used to choose the sample, which included birth date. Note that only 18- and 19-year-old women were chosen from these records, but a small number of women who were 19 when the sample was chosen turned 20 before they were located for the baseline interview. Race was measured with

the following question: “Which of the following groups describe your racial background? Please select one or more groups: American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, Black or African American, or White.” In all, 34% percent of the sample reported their race as African American. A preceding question about Hispanic ethnicity yielded 60 Latinas, who were coded according to their answer to the race question – 21 selected African American, 39 selected another race. In response to questions about primary childhood residence, 51% of respondents reported growing up with two parents (either two biological or one biological and one step-parent), and 49% reported growing up with one biological parent only (no step-parent) or with another arrangement (e.g., with grandparents, an aunt, etc.). Respondents were asked, “How old was your biological mother when she had her first child?” Over a third (38%) reported their mother had been a teen parent. For the question “What is the highest level of education your mother completed?” 9% reported less than high school and 91% reported at least high school. Respondents were asked, “While you were growing up, did your family ever receive public assistance?” Over a third (38%) reported public assistance during childhood. For the question “How important if at all is your religious faith to you?” response choices ranged from 1 (not at all important) to 4 (more important than anything else). Reducing responses to two categories, 46% chose not at all or somewhat important, and 54% chose very important or more important than anything else. Because respondents were sampled at age 18 or 19, many were still enrolled in high school and few had completed any post-secondary education. Respondents reported the following to a series of questions assessing their current educational enrollment and achievement: 9% had not completed high school or a GED and were not enrolled in school, 24% had graduated from high school but were not enrolled in post-secondary education, 13% were still enrolled in high school, 54% were enrolled in postsecondary school. In the Computer-

Assisted Self-Interview (CASI) portion of the baseline interview, respondents used a laptop computer to enter their responses (without the interviewer's assistance) to the question: "Are you currently receiving public assistance from any of the following sources? WIC (Women, Infants and Children Program), FIP (Family Independence Program), Cash welfare, or Food stamps." In all, 28% of respondents reported receiving at least one category of public assistance and 72% reported no type of public assistance.

Four baseline measures of adolescent experiences related to pregnancy that referred to the respondent's past were also included as controls. In response to the question, "How old were you the first time you had sexual intercourse?" 60% reported they were 16 or younger, and 40% were older than 16 or had not yet had sexual intercourse. When asked, "With how many total partners have you had sexual intercourse?" 30% reported one partner or had not yet had sexual intercourse, and 70% reported two or more sexual partners. When asked, "Have you ever had sexual intercourse without using some method of birth control such as condoms, pills, or another method?" 56% answered affirmatively and 44% had never had sex without birth control (including those who had never had sex). In response to "How many times have you been pregnant in your life?" 28% reported one or more prior pregnancies.

Analytic Strategy

A series of logistic regression models were conducted for any contraceptive use, consistency of contraceptive use, and each specific contraceptive method used (LARC, pill, condom, and withdrawal) on intimate partner violence. Results from these models are presented in the form of log-odds; standard errors are in parentheses (Table 2). All analyses were conducted using Stata/SE 13.0 with the cluster option, which adjusted the standard errors to account for the clustering of observations (relationship weeks) within respondents. All models

included controls for relationship and individual characteristics, the results for which will be available in the final paper in an additional set of Appendix Tables.

RESULTS

Table 1 presents the distributions of the contraceptive outcomes and IPV among the analytic sample (12,008 weeks for 711 respondents). 90% of relationship weeks involve any contraceptive use. Among use weeks, 78% of relationship weeks involve consistent contraceptive use. And, LARC is used in about 9% of use weeks, pill is used in 48% of use weeks, condom is used in 26% of use weeks, and withdrawal is used in 17% of use weeks. Recall that specific contraceptive method used is based on the most effective method for pregnancy prevention so weeks of condom use are condoms only or condom and a less effective method (withdrawal) and weeks of withdrawal are withdrawal only. In 17% of weeks, the respondent and her current partner had fought or argued only, in almost 10% of weeks the current partner insulted the respondent, in 1% of weeks, the current partner threatened the respondent with violence, and in 2% of weeks, the respondent was physically hurt by the current partner. 72% of weeks had involved any of the above with the current partner and 36% included more than fighting. 25% of weeks had involved any of the above with a prior partner and 15% more than fighting.

Table 2 presents the results from logistic regression models of any contraceptive use, consistency of contraceptive use, and each specific contraceptive method used (LARC, pill, condom, and withdrawal) on intimate partner violence. We summarize the key findings across the different outcomes (columns 1-6). Being insulted in the current week was associated with less use (column 1) and less consistent use that week (columns 2). Being physically hurt in the current week was also associated with less use (column 1) and if the couple was using a method,

the likelihood of using an IUD was greater but the likelihood of using the pill was lower (columns 3 and 4, respectively). The greater the level of violence with the current partner prior to the current week, the lower the likelihood of use (column 1), consistency (column 2), and condom use but the greater the likelihood of withdrawal (column 5 and 6 respectively).

DISCUSSION

This paper illustrates that the dynamics of intimate partner violence are important to our understanding of contraceptive behaviors. We find that young women used less contraception, and used it less consistently, during *weeks* in which they experienced violence, and more generally, with *current partners* who were ever violent. Violence was associated with less pill and condom use, and more withdrawal. Although women experiencing violence have higher rates of IUD use than those not experiencing violence, IUD use is very low among both populations. The finding that violence in the current week as well as a history of violence with that partner differentiated use, consistency, and method, whereas a history of violent partners did not, suggests that it is more about what is going on that week or in that woman's current relationship than it is about this woman having a history of violent partners and/or being someone who gets into violent relationships, etc.

Although the RDSL sample was randomly selected and population-based, it consists of women residing in a single county in the state of Michigan, which may decrease the generalizability of the results. However, focusing on a single county, reduces variation in other characteristics that we may be less concerned about. We also do not expect that the underlying processes will vary across regions. There are few Latinas in our sample. However, we have a large sample of African American women and we have substantial variation by SES within the White and African American groups. We also do not have direct reports about the relationship

from the partner. But, this allowed us to capture a diversity of relationships, from one-night stands to engaged and married relationships. Had we collected partner data, the sample of relationships would likely have been more serious, as it would have been more difficult to get casual partners to agree to be interviewed. Finally, while we recognize the importance of studying violence among women and men, the existing study sample includes women only. We believe that a closer examination of women's experiences with victimization is a necessary step towards better understanding intimate partner violence. We also acknowledge that we are limited in our lack of dynamic information about perpetration and sexual violence.

In sum, our data allow us to explore dynamic processes of intimate partner violence that have not previously been addressed in the literature. Violent relationships increase the risk of unintended pregnancy because they involve notably less, less consistent, and less effective contraceptive use. We hope these results will lead to further research on the dynamic role of violence, among a more ethnically diverse sample. In the final paper, we will provide more fully developed background and discussion sections.

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Table 1. Descriptive Statistics (N=711 individuals, 1,277 relationships, and 12,008 weeks; except where noted)

	Proportion/			
	Mean	SD	Min	Max
Contraceptive Outcomes (N=12,008 weeks)				
Any contraceptive use	0.90		0	1
Consistency of contraceptive use ^a	0.78		0	1
<i>Specific Contraceptive Method Use^b</i>				
LARC	0.09		0	1
Pill	0.48		0	1
Condom	0.26		0	1
Withdrawal	0.17		0	1
Intimate Partner Violence (N=12,008 weeks)				
Current week				
None	0.71		0	1
Fought or argued only	0.17		0	1
Insulted or disrespected	0.09		0	1
Threatened	0.01		0	1
Physically hurt	0.02		0	1
Current partner (any)	0.72		0	1
Current partner (> fought or argued)	0.36		0	1
Prior partners (any)	0.25		0	1
Prior partners (> fought or argued)	0.15		0	1
Controls:				
Relationship Characteristics (N=12,008 weeks)				
<i>Seriousness</i>				
Current relationship type				
Casual (no commitment, less time-intensive)	0.05		0	1
Dating (no commitment, more time-intensive)	0.05		0	1
Long-Distance (commitment, less time-intensive)	0.10		0	1
Serious (commitment, more time-intensive)	0.41		0	1
Cohabiting	0.20		0	1
Married/Engaged	0.19		0	1
Duration				
Total time with current partner	16.78	14.95	0.08	47.84
Partner Characteristics (N=1,277 relationships)				
Age difference between partner and respondent				
Partner same age or younger	0.21		0	1
Partner 1-2 years older	0.38		0	1
Partner 3-5 years older	0.26		0	1
Partner 6+ years older	0.14		0	1
Partner more educated than respondent	0.15		0	1
Partner has prior children (not with respondent)	0.16		0	1
Individual Characteristics (N=711 individuals)				
<i>Sociodemographic Background</i>				
Age	19.18	0.57	18.12	20.31
African American	0.34		0	1
Grew up with two parents (both bio or bio/step)	0.51		0	1
Biological mother less than 20 years old at first birth	0.38		0	1
Biological mother less than high school education	0.09			
Childhood public assistance	0.38		0	1
High religious importance	0.54		0	1
Education				
Not enrolled and dropped out	0.09		0	1
Not enrolled but graduated high school	0.24		0	1
Enrolled in high school	0.13		0	1
Enrolled in post-secondary school	0.54		0	1
Receiving public assistance at age 18/19	0.28		0	1
<i>Adolescent Experiences Related to Pregnancy</i>				
Age at first sex 16 years or less	0.60		0	1
2 or more sex partners by age 18/19	0.70		0	1
Ever had sex without birth control by age 18/19	0.56		0	1
Any pregnancies before age 18/19	0.28		0	1

Note: LARC includes IUD, implant, or Depo-Provera. Pill includes Pill, Patch, or Ring.

^a Only among weeks in which any contraception was used (N=698; 10,824 weeks).

^b Only among respondents who reported the specific type of contraception used (i.e., not missing) (N=693; 10,742 weeks).

Table 2. Logistic Regression Results of Any Contraceptive Use, Consistency of Contraceptive Use and Specific Method Used on Intimate Partner Violence

	Any Use b/se	Consistency b/se	Specific Method			
			LARC b/se	Pill b/se	Condom b/se	Withdrawal b/se
<i>Intimate Partner Violence</i>						
Current week (ref: none)						
Fought or argued only	-0.040 (0.151)	0.023 (0.094)	-0.219 + (0.140)	0.073 (0.088)	0.114 (0.097)	-0.124 (0.114)
Insulted or disrespected	-0.308 * (0.145)	-0.236 * (0.113)	-0.402 * (0.192)	0.040 (0.124)	-0.067 (0.134)	0.193 + (0.128)
Threatened	0.022 (0.375)	-0.114 (0.295)	-0.496 (0.526)	0.191 (0.378)	-0.297 (0.327)	-0.052 (0.357)
Physically hurt	-0.734 ** (0.252)	-0.241 (0.210)	0.974 *** (0.300)	-0.333 * (0.188)	-0.101 (0.285)	0.018 (0.222)
Current partner	-0.386 ** (0.146)	-0.354 *** (0.096)	-0.233 (0.214)	-0.003 (0.111)	-0.201 * (0.114)	0.331 ** (0.121)
Prior partner(s)	-0.261 (0.254)	-0.116 (0.177)	0.420 + (0.306)	0.084 (0.255)	-0.284 + (0.200)	-0.169 (0.283)
N (Relationship-weeks)	12,008	10824	10,742	10,742	10,742	10,742
N (Respondents)	711	698	693	693	693	693

Notes: Coefficients are effects on log-odds. Standard errors in parentheses. All models control for relationship seriousness, partner characteristics, and respondents' sociodemographic characteristics and prior sexual, contraceptive, and pregnancy experiences.

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001 (one-tailed tests).