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A Brief Intervention for Prevention of Sexually Transmitted Infection among Battered Women

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Abstract

Objective: To test the feasibility and acceptability of a combined brief nursing intervention (BNI) to prevent sexually transmitted infections (STIs) and intimate partner violence (IPV) among rural women attending a family planning clinic. The primary outcomes of interest were frequency and severity of IPV, the number of safety behaviors implemented by women, and the number of safer sex strategies used at 3 months postintervention.

Design: A one-group pretest/posttest design.

Setting: Rural health department family planning clinics.

Participants: Eighty-eight women were screened for IPV. Nineteen (21.4%) screened positive for past-year history of IPV, and 18 completed the intervention and data collection (baseline and 3 months).

Methods: Women who screened positive for IPV were given a BNI addressing IPV and STI prevention. Severity and frequency of violence, IPV safety behaviors, and safer sex behaviors were measured at baseline and 3 months.

Results: The frequency of physical ($p = .02$) and sexual ($p = .05$) violence decreased from baseline to 3-month follow-up. Although not statistically significant the number of safer sex behaviors reported increased from baseline to follow-up.

Conclusions: This BNI shows promise, though findings must be interpreted with caution due to small sample, lack of a control group, and no randomization. It was feasible to deliver the intervention in clinic settings.

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Keywords

Intimate partner violence; sexually transmitted infections; women's health

Sexually transmitted infections (STIs), HIV, and violence represent significant and overlapping health burdens for women. The outcomes of these conditions include pelvic inflammatory disease, chronic pelvic pain, infertility, spontaneous abortion, preterm labor and delivery, and death. At least 22% of women in the United States experiences intimate partner violence (IPV) in their lifetimes and 3% to 12% in the past year (Department of Justice, 2011; Saltzman, Fanslow, McMahon, & Shelley, 1999; Tjaden & Thoennes, 2000). Among women in clinic settings, such as STI clinics, family planning, and general primary care clinics, current rates of IPV range from 11% to 21% (Bauer et al., 2002; Coker, Smith, McKeown, & King, 2000; John, Johnson, Kukreja, Found, & Lindow, 2004).

In this article, we use the Centers for Disease Control and Prevention uniform definition of IPV as a pattern of coercive control of one intimate partner by the other and includes physical and sexual violence, threats of physical or sexual violence, and emotional abuse in the context of physical and sexual violence (Saltzman et al., 1999). Intimate partners include current and former spouses, boyfriends/girlfriends, and dating partners.

Intersection of IPV and STIs

The increased risk for STIs among women who have experienced IPV or IPV and assault from nonintimate partners is well established through investigations with many different populations and settings using qualitative and quantitative data. Researchers have noted a connection between decreased rates of condom use and IPV (Gielen, McDonnell, & O'Campo, 2002; Rickert, Wiemann, Harrykisson, Berenson, & Kolb, 2002; Wu, El-Bassel, Witte, Gilbert, & Chang, 2003). Although findings from quantitative and qualitative research indicate that some battered women can use condoms (Laughon, 2007; Laughon et al., 2007), others have noted that discussing condom use can precipitate violence (Wingood & DiClemente, 1997). Therefore, there is a need to examine the role of a range of safer sex behaviors including but not limited to condom use that might also be employed by women experiencing IPV.

Interventions for IPV and HIV/STIs

There are currently few reported interventions that simultaneously address IPV and HIV/STI risk together. Usual HIV/STI prevention strategies assume a woman's ability to negotiate for condom use and to safely refuse sex, conditions that are not present for women experiencing IPV. This was illustrated indirectly in a meta-analysis of HIV prevention interventions, where the researchers concluded that current HIV/STI prevention interventions for women have weak effects at best (Logan, Cole, & Leukefeld, 2002). The authors concluded that it is important to combine HIV and STI preventive efforts that address how violence affects women's risk of HIV/STI acquisition and influences use of male and female barrier methods.

Most interventions tested to date have used a multiple-session, group format (Ehrhardt et al., 2002; Melendez, Hoffman, Exner, Leu, & Ehrhardt, 2003; Thurman, Holden, Shain, Perdue, & Piper, 2008). One brief, clinic-based intervention was demonstrated to be effective in increasing safer sex behaviors in some populations, but its efficacy among women experiencing IPV has not been examined (Gollub, French, Latka, Rogers, & Stein, 2001; Jemmott, Jemmott, Hutchinson, Cederbaum, & O'Leary, 2008; Jemmott, Jemmott, & O'Leary, 2007).

Interventions for IPV in brief, clinic based settings have been shown to be effective in a quasi-experimental and an experimental trial in several settings (McFarlane, Groff, O'Brien, & Watson, 2006; Parker, McFarlane, Silva, Soeken, & Reel, 1999), but these interventions did not include STI prevention information. An STI prevention intervention that included specific information for women experiencing IPV was shown to be effective (Shain et al., 2004) but required multiple visits, which may be burdensome for some women (Laughon, 2007; Laughon et al., 2007). Therefore, there is a need to develop and test interventions that (a) offer multiple strategies to prevent STIs, (b) include safety planning, and (c) can be given at a single clinic visit.

Clinicians implementing HIV and sexually transmitted infection prevention strategies must acknowledge the possible role of violence in increasing women's risk and as a barrier to practicing safer sex.

The goal of this study was to test the feasibility and acceptability of a combined brief nursing intervention (BNI) to prevent STIs, including HIV, and reduce IPV among rural female family planning clients in central Virginia in preparation for a longer, more rigorous study. The primary outcomes of interest were frequency and severity of IPV, the number of safety behaviors, and the number of safer-sex strategies used by the women at 3 months postintervention.

Methods

Design and Sample

A one-group, pretest/posttest design was used to determine the feasibility and acceptability of a combined BNI for rural women experiencing IPV and at risk for STIs/HIV. The study design, instruments, and forms were all approved by the Institutional Review Board prior to data collection.

In two rural health department family planning clinics, all English-speaking women age 18 or older who presented to the clinic during scheduled family planning clinic hours were asked if they would participate in a study to improve women's health. Eighty-eight women were subsequently screened in a private room by the one of the investigators. After informed consent was obtained, demographic information was gathered and the participants were screened for IPV using the Abuse Assessment Screen (AAS) (Soeken, McFarlane, Parker, & Lominack, 1998) (omitting question on pregnancy). Women answering *yes* to any of the AAS questions within the past year were considered eligible to join the study. Nineteen women screened positive on the AAS, and 18 women completed the subsequent protocol.

One woman consented to the study but was unable to continue at the moment and was lost to follow up.

Measures

Demographics of the sample are reported in Table 1. Data on age, race, marital status, current living arrangements (never with partner, with partner, separated from partner), number of children, and gynecological/obstetric history were collected.

Women who experience intimate partner violence have more difficulty finding time and resources to obtain care than women who do not.

The Severity of Violence against Women Scales.—The Severity of Violence against Women Scales (SVAWS) is a 46-item questionnaire designed to measure two major dimensions: behaviors that threaten physical violence and actual physical violence (Marshall, 1992). It includes nine factors or subscales that have been demonstrated to be valid through factor analytic techniques: symbolic violence and mild, moderate, and serious threats (threats of violence dimension) and mild, minor, moderate, serious, and sexual violence (actual violence dimension). It can thus be used to estimate severity (mild, moderate, and serious), types of abuse (physical vs. sexual), and frequency of abuse. The woman scores each behavior (e.g., “threatened to hit me” or “made me have sexual intercourse against my will”) on a 4-point scale from *never* (1) to *many times* (4). Reliability estimates (coefficient alpha) were 0.94 for the Threats of Violence dimension and 0.93 for the Actual Violence dimension in an ethnically stratified community sample of women (McFarlane, Soeken, Reel, Parker, & Silva, 1997).

At baseline, the woman was asked to complete the instrument thinking of her current partner (if there are several, the one with whom she has had the most steady relationship in her estimation) over the past year. At the 3-month follow-up, the women were asked to complete the instrument on the same partner “since we (the nurse researcher and woman) last spoke” (i.e., over the past 3 months).

IPV Safety Behaviors.—IPV safety behaviors were measured using the Safety Behavior Checklist. This checklist contains 15 behaviors that are commonly recommended by IPV advocates to increase battered women’s safety. It includes items such as “ask neighbors to call if they hear arguing” and “remove weapons.” Women answer each question with *yes*, *no*, or not applicable. Because all the items do not apply to all women, the scores are summed and adjusted for the number of applicable answers and the resulting ratio used per published guidelines (McFarlane et al., 2004). Higher numbers indicate use of more safety behaviors. Women were asked at baseline if they have performed any of the behaviors in the past year, and at follow-up, “since we last spoke.”

Safer Sex Strategies.—Safer sex strategies were measured using the STI Protective Behaviors Checklist (Laughon et al., 2007). The checklist assesses the use of nine dichotomous (yes/no) STI protective behaviors. Women were asked: “Have you done any of the following to reduce your chance of being infected with HIV or an STI in the past (or since our last interview?)” Items included were “started to use condoms,” “had fewer

partners,” “put off unsafe sex,” “avoided sex when drunk or high.” All items that women mentioned were marked by the interviewer. The total number of items being used was added for a STI Protective Behaviors score.

All women were screened, and the subsequent intervention was conducted in a private room with no family members or friends, including verbal children, present. The measures were obtained at baseline and at 3 months. The time frame of 3 months has been used in randomized clinical trials examining sexual behavior (DiClemente & Wingood, 1995; Ehrhardt et al., 2002; The National Institute of Mental Health Multisite HIV Prevention Trial Group, 1998) and clinic-based IPV interventions (Gillum, Sun, & Woods, 2009). Additionally at 3 months, the women were asked open-ended questions about their experience of receiving the intervention in the clinic, their experience with implementing the IPV or safer sex behaviors since the intervention, and their suggestions for improving the delivery of the intervention. Appropriate safety protocols were followed for conducting telephone surveys at the 3-month follow-up.

Description of the Nursing Intervention

The BNI was delivered face-to-face, in a private room in the clinic site, by a study nurse. The nurses were either a PhD-prepared nurse with extensive clinical and research experience with battered women or a doctoral student who was a nurse practitioner with substantial clinical experience. The intervention was a 10-minute counseling session based on the work previously tested and available to all nurses through the March of Dimes (McFarlane, Parker, & Moran, 2007). The intervention consisted of four components and has been used extensively by the study team, which includes one of the original authors of the intervention.

The IPV components are (a) IPV information, (b) Danger Assessment, (c) Safety Planning & Options, and (d) Resources.

IPV Information: Using a specifically designed brochure, the nurse explained the cycle of violence and asked if this was a similar pattern to what the woman was experiencing. The woman could elaborate on similarities and details of her situation or explain how the pattern was different for her, giving the nurse important assessment information and the woman a chance to tell her story, an important aspect of any abuse intervention.

Danger Assessment: The nurse discussed the risk factors for homicide using the Danger Assessment (DA) (<http://www.dangerassessment.org/>). Items include issues such as history of threats and serious violence, use of drugs, gun ownership, and controlling activities. Eliciting information on these items served as a consciousness-raising exercise for the woman and an assessment of the seriousness of the violence for the nurse. The risk factors were then summed and discussed with the participant. Although no cutoff score has been determined for the DA, the higher the score, the more risk, and the nurse was more assertive with women in more dangerous situations.

Safety Planning & Options: Next, the nurse provided the woman with options: including leaving the partner with a safety plan in place, staying with the partner but

developing a safety plan, obtaining a protective order, and/or pressing criminal charges.

Resources: Finally, local, state and national resource numbers were provided. The domestic violence related phone numbers were also embedded in a list of women's health related resource numbers that had been compiled and given to all women.

Using the same approach, the nurse then addressed HIV/STI prevention. This aspect of the intervention was developed by the study team following the same model as the IPV intervention and based on recommended best practices and was reviewed by STI experts (Centers for Disease Control & Prevention [CDC], 2006; Gollub, French, Latka, Rogers, & Stein, 2001).

HIV/STI information: The nurse reviewed basic HIV/STI information including specific risk factors (number of partners, unprotected sex, substance use, and partner's risk factors).

Safer Sex Options: The nurse described the range of options available to the woman, from most to least protective (Dworkin & Ehrhardt, 2007). These included refusing unsafe sex, using a male or female condom correctly with every encounter, using low-risk nonpenetrative sexual practices, using oral sex instead of penetrative sex, using a condom when possible (such as with nonabusive partners), having fewer sex partners, getting tested and treated for treatable STIs (which reduce the risk of HIV infection), getting tested for HIV, and encouraging one's partner to get tested.

STI/IPV Safety Planning: Because discussing condom use and other safe sex practices could trigger violence from some abusive men, specific safety planning strategies appropriate for the woman's situation were discussed. Women were asked which of these behaviors they could reliably incorporate into their sexual practices. Although the nurse emphasized that only consistent correct use of the male or female condom can be counted on to prevent almost all STIs, using as many of these behaviors as possible as often as possible is better than doing nothing. Women were cautioned that their immediate physical safety should always be paramount. The session ended with the nurse reiterating the specific behaviors (IPV and/or safer sex) that women stated they could reasonably attempt, and stated her confidence in the woman's ability to take these actions and make good decisions. This intervention generally took about 10 minutes to complete.

This pilot study of a brief nursing intervention for intimate partner violence and sexually transmitted infection prevention shows promise as a feasible, safe, and possibly effective intervention.

Analytic Strategy

Basic descriptive statistics for each of the study variables were computed and distribution of characteristics were analyzed with univariate statistics and inspected to assess normality, identify outliers, skewed data, and other problems. Due to the small sample sizes, nonparametric tests were selected for all of the bivariate analyses. The data from baseline and the follow-up data collection at 3 months were then analyzed using the Wilcoxon sign-

rank test for the outcomes of interest: total score on the SVAWS, subscale scores for SVAWS-threats, SVAWS-physical violence, and SVAWS-sexual violence, IPV safety behaviors, and safer sex.

Results

The results of the bivariate analyses are reported in Table 2. Frequency and severity of violence as measured by the SVAWS decreased from baseline at the 3 months follow-up. There was a statistically significant decrease in the subscales of physical violence and threats of violence. Women also increased the number of attempted safety behaviors and safer sex strategies, but the difference between baseline and 3 months was not statistically significant.

Discussion

The results from this small pilot study were encouraging. The frequency and severity of violence was lower after the intervention, and the physical violence scores and threats of violence were reduced in this sample after the intervention. The Sexual Violence subscale score was lower, although the difference just approached statistical significance. None of the women in this small sample reported an increase in violence as a result of the STI intervention. This finding is important, as it indicates that the intervention did not increase the women's risk for violence. Furthermore, although not statistically significant women did report the use of more safer-sex strategies at 3 months compared to baseline.

Additionally, at about 10 minutes, the intervention is brief enough to be incorporated into regular nursing care. Assessment and interventions in the health care settings are not only feasible but also potentially lifesaving. In their study of 311 women killed by intimate partners, Sharps et al. (2001) noted that 41% of the women had seen a health care practitioner in the year prior to their death compared to 2.5% who had received services from a shelter or IPV hotline.

Without a control group, it is not possible to attribute the changes found here to the intervention. The small sample size also precludes generalization to clinical populations of women experiencing IPV. These findings do, however, indicate that administering this intervention may be feasible in a community clinical setting. Given the substantial health consequences of STIs and IPV for women, identifying practical, effective strategies for improving women's safety on both fronts is a pressing public health need. Women experiencing IPV, even more than most women, have difficulty in finding the time and resources to obtain needed care. Interventions for most women should therefore be delivered when women present in the clinic and not require repeated visits. If future studies confirm that this is an effective intervention, it could be delivered by the nurse practitioner providing the care or by a registered nurse before or after the woman's appointment with the health care provider. The specific strategy will depend on the personnel available and the particular constraints of the setting.

This study needs to be replicated as a randomized clinical trial with a larger sample size, a control group, and longer follow-up period. We are cautious because without a control group

and random assignment the observed postintervention differences may be unrelated to the intervention. Ideally, subsequent tests of the intervention will include a biological measure of STIs as measure of safer-sex behavior. Urine testing for *Chlamydia trachomatis* and *Neisseria gonorrhoeae* has been shown to be highly sensitive and specific (CDC, 2010; U.S. Preventive Services Task Force, 2007) and would serve as stronger indicator of unprotected intercourse than self report of sexual behavior. Future work will also examine relationship changes and its impact on women's risk.

Conclusion

This pilot single group study of a combined BNI for further IPV and STI prevention shows promise as a feasible, safe, and possibly effective intervention that can be implemented in a busy women's health, family planning, or STI testing clinic setting. Women living in violent relationships are at greater risk for STIs than are other women but may have more difficulty obtaining needed health care. It is therefore imperative to seek out the most efficient and effective manner to deliver needed health messages to this population.

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Table 1:Characteristics of the Sample ($N = 19$)

Variable	<i>n/M</i>	%/ <i>SD</i>
Race/Ethnicity		
African American	5	26
White	13	68
Undetermined	1	5
Age (mean age in years)		
(range: 18–46 years)	28	9
Education		
<High school	5	28
High school or greater	13	72
Emergency travel time (mean time in minutes)		
(range: 1–90)	34	23
Rurality		
Small town, rural area, or farm	15	83
Medium-sized city	3	17

Table 2:

Mean Scores of Outcome Variables at Baseline and 3 Months Postintervention

Variable	Baseline		Three months		Test statistic; <i>p</i> value
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
SVAWS-total score	71.9	9.9	60.1	10.0	$Z = -2.08, p = .02$
SVAWS-threats score	34.1	7.6	29.6	7.0	$Z = -1.84, p = .04$
SVAWS-physical score	36.1	4.6	29.2	4.8	$Z = -1.99, p = .02$
SVAWS-sexual score	8.0	3.5	6.4	0.9	$Z = 1.40, p = .05$
Safety Behavior Checklist	6.8	3.5	7.4	1.1	ns
Safer Sex Strategies	7.0	2.2	7.2	3.3	ns

Note. ns = no significant difference; SVAWS = The Severity of Violence Against Women Scales.