The Effect of an Evidence-Based Intervention on Women’s Exposure to Intimate Partner Violence (IPV)

Laura E. Miller

Sandra A. Graham-Bermann

In Press

American Journal of Orthopsychiatry

Support for this study was granted by the Blue Cross and Blue Shield of Michigan Foundation
Abstract

**Objective:** This study tested the effectiveness of an evidence-based intervention for reducing women’s exposure to intimate partner violence (IPV). **Method:** 120 women who had experienced IPV in the last two years were assigned to a treatment or comparison group condition using a sequential assignment paradigm. Treatment group participants completed a 10-session evidence-based intervention, the Mom’s Empowerment Program (MEP), designed to treat common mental health issues following exposure to IPV and assist women with access to resources. Women were interviewed at baseline and at 6-to-8 month follow-up regarding the level of IPV they had experienced. **Results:** Violence victimization significantly decreased for women in both conditions between the baseline interview and 6-to-8 month follow-up. Participation in treatment was related to an augmented effect of violence reduction, such that women participating in the intervention experienced greater declines in violence than would be expected without treatment. **Conclusion:** These findings support the hypothesis that a treatment model that combines both mental health and advocacy services is likely to be effective in reducing re-victimization risk for women exposed to IPV.

**Keywords:** IPV, evidence-based intervention, violence victimization, mental health, advocacy
The Effect of an Evidence-Based Intervention on Women’s Exposure to Intimate Partner Violence (IPV)

Intimate partner violence (IPV) is defined as threatened, attempted or completed, physical, sexual, and/or emotional abuse (Center for Disease Control and Prevention, 2006). National studies indicate that lifetime IPV prevalence rates for women in the United States range between 22 and 35%, with a yearly prevalence of approximately 1.5% (Breiding, Black & Ryan, 2008; Breiding, Ziemboski, & Black, 2009). Not only is the prevalence of IPV alarmingly high, but its chronicity is of equal concern. In a large survey, Thompson and colleagues (2006) found that of women who had experienced IPV, 21% were victimized by multiple partners and between 5 and 13% experienced IPV for more than 20 years. While IPV occurs in families from a variety of backgrounds, the prevalence of IPV can vary depending upon a number of risk factors, including previous victimizations, homelessness, poverty, and the presence of children in the household (Bair-Merritt, Holmes, Holmes, Feinstein, & Feudtner, 2008; Breiding, Black, & Ryan, 2008; Slesnick, Erdem, Collins, Patton, & Buettner, 2010; Thompson, et al., 2006). IPV is a pressing national concern; it is estimated that IPV has a national cost of 8.3 billion dollars each year, including medical and mental health care costs, as well as lost productivity (Center for Disease Control and Prevention, 2006). Despite the overwhelming negative effects of IPV on women and communities more broadly, few evidence-based treatments have been rigorously evaluated, and even fewer have been shown to be effective.

Interventions Aimed at Reducing IPV

To date, there have been four randomized control trial (RCT) interventions testing the efficacy of therapeutic intervention as a way of reducing women’s exposure to IPV (Stover, Meadows & Kaufman, 2009). The first of these studies was based on the theoretical assumption that one underlying cause of women’s re-victimization is decreased access to
community-level resources – both formal (e.g., legal services) and informal (e.g., friends, social networks; Sullivan, Campbell, Angelique, Eby, & Davidson, 1994). Researchers therefore hypothesized that women who worked with an advocate who could help them access needed resources, would experience less intimate partner victimization over time. One hundred and forty one women participated in the study that tested this theory, with 71 of these women randomly allocated to a 10-week advocacy service. Participants were Midwestern, female, shelter residents who were interviewed six times following their exit from shelter services. At 6-month follow-up, the retention rate for the study was quite good (93%), and rates of IPV had decreased for all women. However, these decreases in IPV were not related to treatment group status. Despite the failure to decrease women’s exposure to violence, women in the treatment group reported overall greater quality of life and confidence in their ability to access resources.

Sullivan and Bybee (1999) then conducted a second RCT with a more highly standardized advocacy model and a larger sample to test effectiveness in shelter populations. This study included 278 Midwestern women who were living in a shelter, half of whom were randomly assigned to work with an advocate upon their departure from the shelter. The advocacy counseling sessions included a careful assessment of individual needs, implementation of a plan, and monitoring of effectiveness/reassessment of needs. Again, retention rates for the study were high – with an average of 95% of participants retained over the course of 2 years. Results showed that violence decreased for both groups of women over time (24 months), but violence was significantly lower for those women who had received advocacy services. In addition, women in the treatment group reported better quality of life, better social support, and fewer depressive symptoms than did women who did not receive the advocacy services. However, a 3-year follow-up indicated that while the intervention appeared to have a continued positive effect on women’s perception of quality of life and
social support, differences in violence victimization between treatment and comparison groups were not maintained.

McFarlane, Soeken and Wiist (2000) tested the relative effectiveness of different types of interventions theorized to reduce IPV victimization in a group of pregnant women. Three conditions were employed: Brief, Counseling, and Outreach. The Brief intervention consisted of a one-time provision of paper resource materials for the victimized woman (e.g., phone numbers for local legal services, police). The Counseling intervention consisted of an open offer for women to participate in “drop-in” individual sessions with a counselor trained in the treatment of women with histories of IPV. The Outreach condition consisted of both access to the counselor as well as assignment to a mentor who had been trained in advocacy services. All services stopped when women delivered their child and follow-up took place two months later. Violence decreased for all women over time, and women in the Outreach condition had significantly lower violence rates at two month follow-up than women in the Counseling (but not the Brief) condition. However, these differences were not maintained at 6, 8, or 12-month follow-up. This study, in particular, focused on narrow group of participants (pregnant women), limiting its usefulness for treatment recommendations for most women exposed to IPV. In addition, although they were wise to test a range of competing hypotheses and models, these models were not stringently operationalized. This makes it difficult to tell whether the interventions were ineffective due to a true failure of services or whether women opted not to use the services available.

Davis, Maxwell, and Taylor (2006) created a one-time home-based intervention service following an incident of reported IPV. This intervention model was tested on 434 families who had recently experienced domestic violence (separate analyses were conducted for other kinds of abuse – e.g., elder abuse) in public housing units in New York City. Families were randomly assigned to the intervention condition, which was administered by a
police officer and a social worker, who aimed to help connect the victim with the appropriate legal protection and referral information. They tested this intervention model against a public education initiative that targeted low-income housing communities. Families were followed for 6-months in order to track violence recidivism rates. Although the investigators found that intervention resulted in an increase in incident reports to the appropriate authorities, there were no differences in violence victimization between those who received either intervention and those who did not.

**Limitations of Existing Intervention Strategies**

While these studies provide valuable information about brief interventions that may provide some short-term protection against violence, it is clear that more work needs to be done to promote permanent and positive change in the lives of women exposed to IPV. Although women’s limited access to community resources following IPV victimization is undeniable, it seems that interventions solely addressing concerns regarding access to resources are falling short of women’s needs. One reason for this lack of effect might be the general neglect of women’s mental health difficulties following their experiences of abuse. For example, recent research has found that women’s PTSD symptoms following exposure to IPV predict future revictimization (Kuijpers, van der Knapp & Winkel, 2012). Thus, it may be that an intervention model that combines these advocacy-oriented interventions with tailored mental health services, may assist in promoting long-term protection from re-victimization. Only one of the four RCTs (McFarlane, et al., 2000) attempted to test such a model, but it was not rigorously applied. As a result, it remains unclear what impact providing mental health intervention in conjunction with advocacy services might have on reducing women’s exposure to IPV.

**Current Study Aims and Hypothesis**
The current study is part of a longer, on-going evaluation of the evidence-based intervention for women and preschool-aged children exposed to IPV. Preliminary results show that the children's program reduces internalizing behavior problems (author reference) and for some, enhances social competence (author reference). The current study aimed to examine the effectiveness of the partner evidence-based intervention for adult women, the Moms’ Empowerment Program (MEP; author reference), on women’s violence victimization. This is a 10-session group intervention program for women who have experienced IPV in the past two years. The MEP provides psychoeducation about violence and its effects on women and children, identifies and assists with advocacy needs, and teaches important skills for promoting good mental health (e.g., processing traumatic events, relaxation techniques). It was hypothesized that this combined approach to intervention services (i.e., mental health services combined with advocacy/assistance with access to supports) would result in reductions in violence victimization that would be maintained over time.

Methods

Participants

Women were from both urban and rural areas of the Midwestern United States and Southern Ontario, Canada. They ranged in age from 21 to 54 ($M=31.8, SD=7.2$) and represented a wide range of racial/ethnic backgrounds. Forty-eight percent of the mothers were European American, 37% were African American, 8% were Biracial, 6% were Hispanic American, and 1% was Asian American. The majority of women completed at least some college or advanced education (59%), but were generally low-income, with a reported average monthly income of $1,414 per month ($SD = $1,549). Nine percent of women were currently living with an abusive partner at the time of the study.

Procedures
After obtaining IRB approval for all study materials and procedures, women were recruited from local communities using advertisements and flyers placed in participating agencies (e.g., fitness centers, legal services, mental health agencies). Women were also referred to the program by advocates at local domestic violence shelters. Advertisements included a toll-free number for the project coordinator. Once women called the project coordinator, they completed a brief phone screen to determine their eligibility for the program. In order to participate, women needed to have experienced IPV in the past two years and have a child between the ages of 4 and 6.

If women were interested in participating, they were assigned to either the treatment or comparison group and were immediately scheduled for their baseline interview. Women were randomly assigned to either the intervention or comparison condition using a block randomization design. This design was selected in order to decrease the wait time for women prior to the intervention to prevent participant attrition. In all, 62 women were randomly assigned to the comparison condition and 58 to the treatment condition. Women participating in the intervention attended an average of 6 sessions ($SD=3$). There were no significant differences between the groups on any study variable at baseline, indicating successful randomization.

Interviews were scheduled at the convenience of the participants, and occurred in the women’s homes unless they were currently living with an abusive partner. If an abusive partner was in the home, interviews were scheduled at a safe and neutral location such as a library or community center. At their baseline interview, mothers completed an informed consent to participate for both themselves and their child. The interviewer reviewed with them the timing of follow-up interviews (at 5 weeks and 6 to 8 months) and obtained permission to contact them at these times. Women assigned to the comparison condition were given the opportunity to participate in the intervention following their second interview.
as an ethical consideration for working with these high-risk families. Because women (n=9) who opted to complete the intervention after their second interview were not pure comparisons at the 6 to 8 month follow-up, data for these 9 women was removed from the analysis. These women were not different from other control women on any of the key variables assessed.

**Attrition**

For the purposes of the current study, only baseline and 6 to 8 month follow-up interviews were used, as a 5 week time span was not sufficient to accurately identify changes in violence in the past year. At the 6 to 8 month follow-up, 41% of the sample was unable to be located. Drop rates were neither significantly different by group assignment nor in the level of violence experienced at entry into the study.

**The Mom’s Empowerment Program**

The Mom’s Empowerment Program is a ten session intervention delivered twice weekly for five weeks. Each session lasts approximately one hour and there are typically 5-7 participants in each group. The group format emphasizes creating a sense of safety and community with program leaders and other women who have been abused. Initial sessions of the MEP focus on building group cohesion through the development of group goals and rules, expectations about attendance, and discussions about privacy. Central components of the intervention including empowerment and safety are also introduced early in the group process. Women are educated about the power and control exerted by abusive partners and then discuss opportunities to break this cycle of domination. Once foundational concepts are solidified, intervention sessions move into topics related to the intergenerational transmission of violence, the woman’s family of origin and history of violence, and the effects of violence exposure on young children. As the intervention progresses, women learn about conflict resolution, assertive communication, stress management, and emotion regulation skills. The
final sessions of the intervention further develop women’s social and instrumental support, as well as expand her knowledge of available resources in the community. At no point are participants directly encouraged to end their relationship, instead women are provided with support and empowering knowledge to choose appropriate next directions for themselves.

The intervention groups were led by clinical psychologists, community social workers, social work graduate students, clinical psychologists and advanced clinical psychology graduate students. All group leaders underwent one month of clinical and didactic training before beginning groups. To ensure treatment fidelity, group leaders received four hours of weekly supervision with a licensed clinical psychologist who developed the intervention. During these supervision sessions, process notes were reviewed to assure adherence to the treatment manual and clinical issues were discussed.

**Measures**

**Individual Demographics.** A brief demographic questionnaire was administered to gain information about women’s age, racial/ethnic background, monthly income, and educational attainment.

**Exposure to Violence.** Exposure to violence was measured using the *Conflict Tactics Scale – Revised Version* (CTS2; Straus, et al., 1996). The CTS2 is a 78-item instrument that assesses both aggression and victimization. In deference to participating agencies, only data on violence victimization was assessed. The domains of violence assessed by this measure are comprehensive, and include Psychological Aggression, Physical Assault, Injury, Sexual Coercion. For each item, the women estimated the number of times it had occurred in the past year. At 6 to 8 month follow-up, women were asked to report on violence that had occurred since their baseline interview, thereby preventing overlapping reports of violence. The CTS2 has been shown to be reliable, with subscales ranging from $\alpha=.79$ to $\alpha=.95$ (Straus, et al., 1996). Only scales of Physical Assault, Sexual Coercion, and Injury were used for the current
analysis because the scales of Negotiation and Psychological Aggression were inconsistently administered at the final follow-up. In order to gain an idea of total violence exposure across time points, these three scales were summed. The reliabilities for the total violence at each measurement time point in the present study were (α) .93 at baseline and .76 at follow-up with subscales of Physical Assault (α=.72, .87), Sexual Coercion (α=.80, .82), and Injury (α=.62, .47).

**Design and Analytic Protocol**

The current study is a longitudinal examination of women who are reporting retrospectively on their level of IPV victimization in the past year. Initial examinations of violence victimizations indicated that the women’s violence victimization reports adhered to the shape and characteristics of a Poisson distribution, with discrete events of violence occurring within a time-limited period of one year. As such, data were analyzed using multilevel Poisson modeling in STATA that examined women’s reports of violence victimization at two time points. The model also included a term to account for the random intercept by person accounting for clustering within the individual, and is described by the following equation:

\[ y_{it} = \beta_0 + \beta_1(Treatment) + \beta_2(Time) + \beta_3(Treatment*Time) + \beta_4(Age) + \beta_6(Minority Status) + \beta_7(Income) + u_0 + e_{it} \]

Here, \( y_{it} \) is the outcome variable (violence victimization) for each individual woman over time, \( \beta_0 \) represents the model intercept, and \( \beta_1, \beta_7 \) are regression parameters. The parameter of \( \beta_3 \) represents a test for the effectiveness of the intervention in reducing violence over time. Random intercepts for individuals are accounted for in this model by \( u_0 \), and \( e_{it} \) representing individual-specific variation in outcomes over time.

**Results**
Women in the current study reported high rates of IPV victimization at baseline, with an average of 96 threatened or completed acts of physical violence, sexual coercion or violence-related injury. More specifically, women indicated an average of 56 acts of physical aggression (SD=57), 25 acts of sexual coercion (SD=38) and 15 instances of violence related injury (SD=18). At 6 to 8 month follow-up, women in the comparison group reported an average of 12 (SD=24) events of physical violence, sexual coercion, and violence-related injury that had occurred since the baseline interview, whereas those women in the intervention reported an average of 3 events. (SD=10)

**Violence Victimization Recidivism**

Descriptive statistics were conducted to determine the rates of recidivism across groups. For women in the comparison group, 46% of women reported that there had been no violence of any kind since their baseline interview, 26% reported 10 or fewer events, and 28% reported 11 or more events of violence victimization since their last interview (Range: 11-105).

Approximately 47% of women in the treatment group reported no violence of any kind between their baseline and 6 to 8 month follow-up interview. Forty-seven percent of women in the treatment group indicated 10 or fewer events of violence victimization between their baseline and follow-up interviews, and six percent (n=2) experienced 11 or more victimizations (Range 30-49).

**Multi-level Model of Violence Victimization Incidence**

A multi-level model was then examined to test the effectiveness of treatment over time on IPV victimization, controlling for basic demographic variables. A random intercept was included to allow for clustering of observations within individuals over time. The final model is reported in Table 1.

[Insert Table 1 here]
Information from the final model shows that the inclusion of random intercepts was a significantly better statistical method than conducting a regression equation without taking such clustering into account ($\chi^2=7683.84, p<0.001$). Women’s income and minority status were not significantly related to rates of IPV over time in this model, but greater age predicted less IPV over time ($\beta=-0.08, p<.001$). There was also a significant decrease in IPV over time for all women, regardless of treatment status ($\beta=-0.04, p<.001$). However, this effect was significantly augmented by participation in treatment, with women in the treatment group experiencing even greater reductions in IPV over time ($\beta=-0.04, p<.001$; See Figure1).

[Insert Figure 1 here]

**Discussion**

The hypothesis of the current study, that a psychological treatment designed to address both women’s mental health needs and promote access to resources would significantly reduce women’s IPV victimization over time, was well-supported. As found in other research (McFarlane, Soeken and Wiist (2000); Sullivan et al., 1994; Sullivan & Bybee, 1999), violence decreased over time for all women. However, there was also a significant effect of treatment in promoting additional reductions in violence. This effect has not been achieved by 3 of 4 intervention RCTs to date (Davis, Maxwell, & Taylor, 2006; Sullivan et al. 1994; Sullivan & Bybee, 1999). McFarlane and colleagues (2000) found an immediate effect of their advocacy intervention on women’s reports of violence, but unlike the current study’s intervention, this effect was not maintained at 6-month follow-up.

This finding provides preliminary evidence for the effectiveness of combining advocacy and therapeutic services. While McFarlane and colleagues (2000) reported this combined model to have no effect, it is important to note that the structure of their combined intervention was significantly different than the intervention tested in the current study. McFarlane and colleagues employed a “drop-in” model for psychological treatment, and it is
unclear from their descriptive statistics the extent to which women in the combined treatment condition actually utilized treatment services, and if so, exactly what was the focus of the treatment. The current study, alternatively, prioritized therapeutic services, relied on a treatment manual, enhanced fidelity with ongoing supervision and process notes, and had a clear structure and expectations for participant attendance in group therapy sessions. It is therefore a much more rigorous psychotherapeutic approach than has been previously tested.

**Limitations**

The primary limitation of the current study is the large rate of attrition (41%). Other IPV intervention studies reviewed in this manuscript had much stronger retention rates (around 90%). It may be that the regular connection with advocacy services promotes retention, and that incorporating a larger advocacy component into future studies of therapeutic intervention may promote better retention (and better outcomes). It is promising that women’s attrition appeared to be unrelated to the level of violence they reported, but it is certainly possible that those women who failed to participate in the follow-up interview were those that had experienced more significant re-victimization.

The study is also limited in terms of geographic and racial/ethnic diversity. The women were located in the upper Midwestern United States and Southern Canada. While most of the women were either European American of African American, Asian American and Latina women were underrepresented. Further the data on victimization were provided by self-reports. Future studies might rely on multiply sources for collaboration of information on violence victimization, such as police reports, medical records or assessments by other family members.

**Clinical Implications**

The results of this study show the importance of a group format where women gain support from therapists and from others who are going through similar hardships. A major
psychological issue in IPV is isolation from social support; the women in this intervention created a new sense of community through the group format that helped them to gain new perspective on the unacceptability of violence in a relationship and share their thoughts on ways of avoiding future violent partners. A combination approach to treatment, wherein women receive psychoeducation and knowledge, but also receive the empathy, understanding, and mutual connection through group intervention appears to be needed. Our results also provide some support for the idea that women do not need to be told directly to leave an abusive relationship. Rather they can build empowerment skills to make significant change in their abuse victimization. Clearly, short-term services can be effective. Therefore women exposed to IPV may not need long-lasting or costly individual therapy or home-based services.

**Future Directions**

In order to better assess both violence victimization, violence perpetration, and changes in violence the CTS2 should be administered in its entirety. In this way we can also assess changes in violence perpetration by the woman to her partner to identify whether intervention can decrease the bi-directional nature of IPV. Future studies would do well to assess outcomes at a longer follow-up period, as the 6-8 month period is still relatively short. It will important to also evaluate any new relationships and the extent of their violence to identify whether they transitioned into a non-violent relationship. Finally, information on what contributes to the change in violence would be helpful in improving services for this population, e.g., what are the factors of the intervention, the relationship, or the woman, that predict less violence.

**References**


Table 1.
Multi-level Model Predicting to IPV Victimization

<table>
<thead>
<tr>
<th>Predictors</th>
<th>B</th>
<th>SEβ</th>
<th>z</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time (in weeks)</td>
<td>-0.04</td>
<td>0.00</td>
<td>-28.78</td>
<td>0.000</td>
</tr>
<tr>
<td>Treatment</td>
<td>0.39</td>
<td>0.31</td>
<td>1.30</td>
<td>0.194</td>
</tr>
<tr>
<td>Treatment*Time</td>
<td>-0.04</td>
<td>0.00</td>
<td>-13.60</td>
<td>0.000</td>
</tr>
<tr>
<td>Age</td>
<td>-0.08</td>
<td>0.02</td>
<td>-3.96</td>
<td>0.000</td>
</tr>
<tr>
<td>Income (z-score)</td>
<td>0.01</td>
<td>0.02</td>
<td>0.58</td>
<td>0.562</td>
</tr>
<tr>
<td>Minority Status</td>
<td>0.07</td>
<td>0.30</td>
<td>0.22</td>
<td>0.837</td>
</tr>
<tr>
<td>Constant</td>
<td>6.11</td>
<td>0.67</td>
<td>8.87</td>
<td>0.000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Random Effects</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Random</td>
<td>1.54</td>
<td>0.12</td>
<td>1.32-1.80</td>
<td></td>
</tr>
</tbody>
</table>
Figure 1.
The Effect of Treatment on Women’s IPV Rates

![Graph showing the effect of treatment on IPV rates.](image)