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## Can a Health Clinic-Based Intervention Increase Safety in Abused Women? Results from a Pilot Study

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### Abstract

**Background:** Intimate partner violence (IPV) has been related to a number of adverse physical and mental health consequences. Research has identified relatively high IPV victimization rates among women seeking care in primary healthcare and emergency department settings. Studies have shown the potential usefulness of screening and intervention in these settings.

**Methods:** This article reports results from a pilot study designed to assess the effect of a clinic-based intervention on women's engagement in safety-promoting behaviors. This study was conducted in a primary healthcare clinic for the uninsured in Baltimore, Maryland. Women who screened positive for recent IPV were randomly assigned to an intervention or control group. The intervention consisted of an on-site counseling session and six telephone counseling sessions over a 3-month period. Women in the control group received health information brochures, a list of community resources, and a monthly telephone call to confirm contact information.

**Results:** A total of 41 women participated in the study. Results demonstrated that women who received the clinic-based intervention engaged in significantly more safety-promoting behaviors than did women in the control group.

**Conclusions:** The results of this study and others indicate the potential usefulness of screening and intervention in a medical setting.

### Introduction

INTIMATE PARTNER VIOLENCE (IPV) has been related to a number of adverse physical and mental health consequences. Research reveals that victims of IPV experience increased injury, chronic pain, gastrointestinal disorders, gynecological concerns, sexually transmitted diseases, mortality, disability, reproductive disorders, poor pregnancy outcomes, substance abuse, depression, posttraumatic stress disorder (PTSD), and worse overall general health.<sup>1-5</sup> Additionally, emotional abuse has been identified as being as strongly associated with health problems as physical abuse.<sup>6</sup> Research has identified relatively high IPV victimization rates among women seeking care in primary healthcare and emergency department settings, with prevalence estimates ranging from 10% to 18% for current (past year) physical abuse, 37% to 50% for lifetime physical abuse, 28% to 44% for current (past year) emotional abuse, and 36% to 72% for lifetime emotional abuse.<sup>6-9</sup>

It has been documented that as a result of such consequences and prevalence, multiple healthcare organizations

have recommended routine screening of patients for IPV by healthcare providers.<sup>10</sup> This is despite the fact that the U.S. Preventive Services Task Force (USPSTF) recently reported finding insufficient evidence to recommend for or against screening of women for IPV.<sup>11</sup> This finding was based largely on a lack of published studies showing the accuracy of screening tools used to detect IPV and limited evidence that intervention protocols resulted in reduced harm to women experiencing IPV.<sup>11</sup> The question thus presents itself: Will we help women through screening in medical care settings and provision of IPV-related services?

Studies have indeed shown the potential effectiveness and usefulness of screening. A study by Krasnoff and Moscatti<sup>12</sup> identified 528 women who were experiencing IPV via a three-question screening instrument and offered an opportunity for advocacy intervention. Of those identified, 475 (84%) of the women agreed to speak with an advocate. Of these, 258 accepted case management and follow-up. The result was 127 women indicating they no longer believed they were at risk for violence from their abuser.<sup>12</sup> One may conclude, therefore, that screening was effective in identifying IPV victims and,

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connected with an intervention, was able to assist women in becoming free of violence and the fear of violence at the hands of an intimate partner.

More recently, Houry et al.<sup>13</sup> were able to use screening to successfully identify women at increased risk for future IPV. Of the 215 women screened in the emergency department of an innercity hospital during an 8-week study period, 16% (32 women) screened positive for IPV. Ninety-six of the 215 study participants participated in a 4-month follow-up interview. These interviews showed that women who initially screened positive for IPV were 11.3 times more likely to experience physical aggression and 7.3 times more likely to experience verbal aggression at follow-up than women who had not initially screened positive.<sup>13</sup> These results provide additional support for the idea that screening in healthcare studies can help to identify women experiencing violence and in need of services. Identification of such women and provision of intervention could help reduce or eliminate this risk for many women.

Additionally, women have indicated a desire for and expressed the helpfulness of being screened by a healthcare provider. A qualitative study by Gerbert et al.<sup>14</sup> found that abused women felt validated by a health provider's recognition and acknowledgment of the abuse, that the behavior of the person who abused her was wrong, and that she deserved better treatment. This validation provided comfort and relief for the women in this study and helped many of them recognize the seriousness of their situation and begin to change it.<sup>14</sup> Relatedly, a recent study also revealed that a majority of women experienced no adverse mental, physical, or safety outcomes as a result of being screened for IPV in a medical setting.<sup>15</sup>

Previous studies have sought to determine if screening for IPV in medical settings is useful in terms of their ability to identify women who are being abused and the potential effectiveness of intervention. Our study has taken it one step further by assessing whether women screening positive for IPV in a primary healthcare setting and participating in clinic-based telephone intervention experienced an increase in their engagement in safety-promoting behaviors.

## Materials and Methods

A randomized controlled trial pilot study was conducted with the following objectives: to assess the effect of a clinic-based telephone intervention on abused women's initiation of safety-promoting behaviors and access to community resources; to assess the effect of stage of readiness on women's initiation of safety-promoting behaviors and access to community resources; and to assess the effect of chronic pain, fatigue, and depressive and PTSD symptoms on women's initiation of safety-promoting behaviors and access to community resources. Data from this study are used for the following analyses, which address the first objective.

### Setting

This study was conducted in a primary healthcare clinic for the uninsured in Baltimore, Maryland. In fiscal year 2005, the year prior to the initiation of this study, the clinic provided 3822 patient visits. The clinic's on-site services include internal medicine, women's health, psychiatry, cardiology, dermatology, endocrinology, gastroenterology, physical therapy, and nutritional care.

### Study procedures

Women  $\geq 18$  years of age seeking care were screened for IPV in a private room by a member of the study team. Those women screening positive for recent (past year) IPV were invited to participate in the study. Upon completion of the initial interview, women were randomly assigned to either the intervention or control group. Women in the control group received health information brochures, a list of community resources, and a monthly phone call to confirm contact information for ease of follow-up. Women in the intervention group received a personalized counseling session upon completion of the initial interview, during which there was discussion of safety-promoting behaviors and individual needs as identified by the woman. Intervention group participants also received a series of six phone calls over 3 months (at weeks 1, 2, 4, 6, 8, and 10) in addition to the above mentioned resources. These phone calls, conducted by a trained community health worker, consisted of goal setting, discussion of safety-promoting behaviors, and identifying needs. The duration of these calls ranged from 5 minutes to 1 hour, with an average duration of 20 minutes. Referrals for community resources or assistance with primary care clinic visits were made based on need or at the research participant's request. All participants were again interviewed at a 3-month follow-up.

Participants were compensated with their choice of a \$10 clinic credit or phone card for the initial interview and a \$15 clinic credit or phone card for the 3-month follow-up interview. The study was approved by the IRB of Johns Hopkins University and the clinic director.

### Measures

**Partner Violence Screen (PVS).** The three-question PVS was used to screen women for recent (past year) IPV. This screen was developed as a brief screen to detect partner violence in a healthcare setting and has been used in ethnically and economically diverse populations, including African Americans.<sup>12,16</sup> It has concurrent validity with the Index of Spouse Abuse (ISA) and the Conflict Tactics Scale (CTS), with adequate sensitivity and specificity at 71.4% and 84.4%, respectively.<sup>16</sup> The PVS also demonstrates predictive ability to identify women at high risk for verbal, physical, and sexual partner abuse over the ensuing 4 months.<sup>13,17</sup>

**Partner Abuse Scale (PAS).** The Partner Abuse Scale (PAS), an adaptation of the ISA, was used to assess type and severity of abuse.<sup>18</sup> Each subscale, Physical and Nonphysical, consists of 25 items using a 7-point Likert scale ranging in severity from Never to All of the time. The possible range of scores for each scale is 0 (never abused) to 150, with higher scores indicating more severe levels of abuse.<sup>19</sup> The PAS has been used with both white and African American abused women. With a cutoff score of 2, the PAS-Physical demonstrates 87.6% sensitivity and 96% specificity, and the PAS-Nonphysical has 98.9% sensitivity and 88% specificity, with a cutoff score of 15, and demonstrates excellent reliability with Cronbach's  $\alpha$  coefficients of 0.94 and 0.98 for the Physical and Nonphysical subscales, respectively.<sup>19</sup> Cronbach's  $\alpha$  coefficients for the current study were 0.97 for the Physical subscale and 0.95 for the Nonphysical subscale.

**Danger Assessment 2.** The Danger Assessment (DA2) was used in this study to assess women's level of risk for lethal harm. The DA2 is a 15-item dichotomous Yes/No response for risk factors associated with intimate partner homicide.<sup>20</sup> With a cutoff score of 7, sensitivity and specificity are fairly good (58% and 87%, respectively). It has demonstrated convergent validity with the ISA and CTS, internal consistency, test-retest reliability, and predictive validity and has been used in a variety of settings with ethnically diverse groups, including African American women.<sup>20-22</sup>

**Stages of change scale.** This scale was used to assess participants' readiness for change based on the Transtheoretical Model (TM). This measure has been used in this capacity with other samples of abused women.<sup>23,24</sup> Although psychometrics for use of the scale with intimately abused women have not been published, similar TM scales have been used for smoking and alcohol cessation with acceptable reliability ratings ( $\kappa = 0.72$  and  $0.73$ , respectively).<sup>25</sup>

**Safety-Promoting Behavior Checklist.** The Safety-Promoting Behavior Checklist was used to assess women's engagement in safety-promoting behaviors. This 15-item questionnaire identifies a woman's actions that could protect her or aid her escape from an abusive partner (e.g., Have you ever hidden money? Have you ever hidden an extra set of house or car keys? Have you had available birth certificates? Have you had available bank account numbers?). It has been used in ethnically diverse populations, including African Americans, in studies of abuse in pregnancy as well as in a family violence unit.<sup>26</sup>

An adjusted composite score for safety-promoting behaviors was used. This took into account the fact that some of the behaviors were not applicable to some women (e.g., Have you ever removed weapons? Have you had available insurance policies and numbers? Have you had available a marriage license?). To calculate this, the number of safety-promoting behaviors engaged in was divided by the number of applicable safety-promoting behaviors. The quotient was then multiplied by 15. For example, if a woman endorsed 5 of 12 relevant actions, her adjusted composite score was 6.25.

**List of community resources for intimately abused women.** A current list of local community resources for women who experience IPV was created for this study and provided to all participants. This list included partner violence resources as well as physical and mental health resources. Frequency of access as a continuous numeric scale was assessed at the initial visit, at each telephone call in the intervention group, and over the past 3 months at the final visit for both groups.

**Chronic Pain Grade Questionnaire.** The Chronic Pain Grade Questionnaire is a seven-item, 11-point Likert scale measure that assesses three dimensions of chronic pain severity: persistence, intensity, and disability. It has demonstrated reliability (Cronbach's  $\alpha$  0.90) and concurrent validity with the Medical Outcomes Study Short Form (SF-36) general health questionnaire.<sup>27,28</sup> For this study, the time frame covered the past 3 months rather than 6 months, and two additional questions were included to assess how much the pain had interfered with the woman's ability to access community

resources and to adopt safety-promotion behaviors. Cronbach's  $\alpha$  for the current study was 0.89 for the total scale.

**Brief Fatigue Inventory.** The Brief Fatigue Inventory is a nine-item, 11-point Likert scale assessment tool that was originally developed to measure fatigue in cancer patients.<sup>29</sup> It has since been used in clinically depressed and community-dwelling adults to measure the severity of fatigue and the subsequent degree of interference with function.<sup>30</sup> It has excellent reliability, with a Cronbach's  $\alpha$  of 0.90, and concurrent validity with the Profile of Mood States and the Functional Assessment of Cancer Therapy-Fatigue scales.<sup>31</sup> For this study, the time frame covered the past 3 months, and two additional questions were included to assess to what extent fatigue had interfered with the woman's ability to access community resources and to adopt safety-promotion behaviors. Cronbach's  $\alpha$  for this study was 0.91.

**Center for Epidemiologic Studies-Depression Scale.** Depressive symptoms were assessed with the 20-item Revised Center for Epidemiologic Studies-Depression Scale (CES-D).<sup>32,33</sup> This DSM-IV-TR concordant instrument measures symptoms of depressed mood, guilt/worthlessness, helplessness/hopelessness, psychomotor retardation, loss of appetite, sleep disturbance, agitation, and suicidal ideation. Scores range from 0 to 4 for each item, for a possible range of 0-80, with higher scores indicating higher levels of depressive symptoms. The Revised CES-D is highly correlated to the original 20-item version (0.89), with demonstrated reliability (Cronbach's  $\alpha$  0.86 to 0.88).<sup>32</sup> In a previous study at the site, the revised CES-D had a Cronbach's  $\alpha$  of 0.94, indicating good reliability.<sup>34</sup> The revised CES-D is an improvement over the original version in that it addresses domains directly related to DSM-IV-TR criteria that are not found in the original version, including items on psychomotor retardation, agitation, and suicidal ideation. It has been used across a wide range of ages and ethnic groups, including African Americans, as well as via telephone and self-administration. Cronbach's  $\alpha$  for this measure in the current study was 0.95.

**Visual analog scale-depression.** Visual analog scales can provide valid and important information about patients' perceptions of mood disorders.<sup>35</sup> To complement the CES-D and obtain information about the effect of depressive symptoms on functioning, a nine-item, 11-point Likert scale measure of severity of depressive symptoms, patterned after the Chronic Pain Grade Questionnaire and the Brief Fatigue Inventory, was used to rate severity of depressive symptoms currently as well as over the past 3 months. Additional questions were included to assess to what extent depressive symptoms interfered with daily activities, social activities, work, and the woman's ability to access community resources and adopt safety-promotion behaviors. Cronbach's  $\alpha$  for this measure in the current study was 0.95 for the total scale.

**Davidson Trauma Scale (DTS).** PTSD was identified as a cluster of symptoms in concordance with the DSM-IV as measured by the DTS.<sup>36</sup> The DTS has participants identify the most disturbing experienced trauma as the focal point for evaluation of PTSD symptoms. The 17 items assess the PTSD clusters of intrusion, avoidance, and hyperarousal for the past week in frequency and severity on a 0-4 Likert scale. Scoring

was done in the recommended fashion using the QuikScore Form.<sup>37</sup> Scores ranging from 0 to 4 are summed for each item. Overall PTSD symptoms were assessed as a continuous variable (0 to 136). A score of  $\geq 40$  is defined as positive for a level of PTSD symptoms that is most clinically accurate.<sup>36,37</sup> Subscale scores for intrusion (items 1–5, range 0–40), avoidance (items 6–12, range 0–56), and hyperarousal (items 13–17, range 0–40) were also computed. This instrument has demonstrated test-retest reliability ( $r = 0.86$ ), internal consistency in tests with women (Cronbach's  $\alpha = 0.99$ ), and concurrent validity with the Structured Clinical Interview (SCID) and has been used in non-Caucasian samples.<sup>36</sup> The DTS had demonstrated reliability in previous work at the study site, with a Cronbach's  $\alpha$  of 0.96, and all subscales of the DTS also demonstrated acceptable internal consistency at the study site (intrusion subscale:  $\alpha = 0.92$ ; avoidance subscale:  $\alpha = 0.94$ ; hyperarousal subscale:  $\alpha = 0.92$ ).<sup>34</sup> Cronbach  $\alpha$ s for the current study were 0.97 for the total scale and 0.92, 0.94, and 0.93 for the intrusion, avoidance, and hyperarousal subscales, respectively.

#### Data management and statistical analysis

Responses to the surveys were entered, verified, and analyzed using SPSS version 14.0 (Chicago, IL). Demographic differences between the control and intervention group were assessed using  $t$  tests and chi-square analyses. Differences in women's initiation of safety-promoting behaviors were assessed with ANCOVA after controlling for relevant covariates.

## Results

#### Study participants

A total of 41 women participated in the study (20 control, 21 intervention), with only 2 being lost to follow-up. Eighty-three percent of the participants in the study were African American, reflecting the demographics of Baltimore City. Participants ranged in age from 23 to 65 years, with a mean age of 43 years. Half the participants were single, and only 7 reported being currently married. The sample was somewhat educated, with most having at least completed high school/GED (81%) and 42% having completed at least some college. Fifty-nine percent were employed, having at least one job (Table 1).

Eighty percent ( $n = 33$ ) of the overall sample met or exceeded the minimum score for depression as assessed by the CES-D. Sixty-one percent ( $n = 25$ ) of the sample met the criteria for PTSD as assessed by the DTS. According to data gathered from the DAS, 34% ( $n = 14$ ) of the sample met the criteria for being in lethal danger. Data gathered from the abuse measures identified that 56% ( $n = 23$ ) of the sample experienced physical abuse and 95% ( $n = 39$ ) experienced nonphysical abuse. The stage of change measure revealed 5 women (12.2%) in precontemplation, 12 (29.3%) in contemplation, 4 (9.7%) in preparation, 10 (24.4%) in action, and 10 (24.4%) in maintenance.

$t$  tests and chi-square analyses revealed no differences in age, marital status, education, and job status between participants in the control group and those in the intervention group. There were also no differences in stage of readiness, type and severity of physical and nonphysical abuse, risk for lethal harm, safety-promoting behaviors engaged in, number

TABLE 1. SAMPLE DEMOGRAPHICS ( $N = 41$ )<sup>a</sup>

Age	Control $M = 46^b$	Intervention $M = 40$	Total $M = 43$
Ethnicity			
African American	18 (90%)	16 (76%)	34 (83%)
White	1 (5%)	5 (24%)	6 (15%)
Hispanic	1 (5%)		1 (2%)
Relationship status			
Married	3 (15%)	4 (19%)	7 (17%)
Single	7 (35%)	13 (62%)	20 (49%)
Separated	4 (20%)	1 (5%)	5 (12%)
Divorced	3 (15%)	3 (14%)	6 (15%)
Widowed	3 (15%)		3 (7%)
Employment status			
Unemployed	6 (25%)	10 (47.6%)	16 (39.5%)
Employed at one job	13 (65%)	10 (47.6%)	23 (56.5%)
Employed at two jobs		1 (4.8%)	1 (2%)
Disabled	1 (5%)		1 (2%)
Education level			
Less than high school	2 (10%)	4 (19%)	6 (15%)
High school graduate	6 (30%)	7 (33%)	13 (32.5%)
GED	2 (10%)	1 (5%)	3 (7%)
Trade school	1 (5%)		1 (2%)
College	8 (40%)	9 (43%)	17 (41.5%)
Other	1 (5%)		1 (2%)

<sup>a</sup>No significant differences were found between control and intervention groups.

<sup>b</sup>M, mean.

of times community resources used, chronic pain, fatigue, depression, and PTSD symptoms between the two groups.

#### Safety-promoting behaviors

To determine covariates, associations between the measures and the change in the proportion of safety-promoting behaviors from prestudy to poststudy were determined (Table 2). Those who reported more nonphysical abuse, risk for lethal harm, and PTSD symptoms engaged in more safety-promoting behaviors. These variables were entered as covariates into an ANCOVA model. Analyses revealed significant group difference in safety-promoting behaviors after controlling for the effect of nonphysical abuse, risk of lethal harm, and PTSD symptoms ( $F(1, 34) = 13.20$ ,  $p < 0.01$ ). On average, those who received the intervention engaged in 3.47 more safety-promoting behaviors. Those who were in the control group performed 0.52 fewer safety-promoting behaviors. An interaction effect was not found.

## Discussion

Our research supports the notion that screening may be helpful in identifying IPV victims who seek care in healthcare

TABLE 2. CORRELATIONS WITH CHANGE IN SAFETY-PROMOTING BEHAVIORS

Variable	Change in safety-promoting behaviors
Nonphysical abuse	0.49**
Risk for lethal harm	0.42**
PTSD symptoms	0.34*

\* $p < 0.05$ ; \*\*  $p < 0.01$ .

settings and provision of interventions in such settings may facilitate increased safety for abused women, thus reducing risk of future harm and additional negative health consequences. Those women seeking care who screened positive for IPV and participated in the clinic-based intervention had engaged in significantly more safety-promoting behaviors at follow-up than women in the control group. This finding is consistent with the recently published results of another study that found an increase in perceived safety and engagement in safety-planning behaviors at follow-up for women who sought care in an emergency department, screened positive for IPV, and participated in an on-site intervention. This intervention followed a similar model of an initial on-site meeting with an IPV advocate, where assessment, safety planning, and goal setting occurred and resource referrals were made, followed by a series of follow-up phone calls at designated intervals.<sup>38</sup>

These results are also similar to the results of another study that used a telephone intervention with a similar goal of increasing safety-promoting behaviors in abused women. This intervention was based in a legal setting (family violence unit of a district attorney's office) and resulted in an average increase of two safety-promoting behaviors for the intervention group sustained over an 18-month follow-up period.<sup>26</sup> These results taken collectively demonstrate that such interventions may be useful in multiple settings where abused women may be seeking assistance.

Routine screening of women entering this clinical setting successfully identified women who recently experienced abuse and who may not have otherwise sought assistance specifically for their abuse experience from a community entity. The provision of on-site intervention services afforded an opportunity for such women to identify and initiate behaviors that help keep them safe from abusive partners. It is conceivable that such service could consequently cause decreased experiences of violence for such women and, relatedly, a decrease in the adverse health consequences that accompany such violent circumstances.

Another strength of this study, besides the helpful findings and the successful provision of safety-enhancing services to IPV survivors, is the 95% retention rate of study participants. This includes those in the control group, who did not receive the same degree of follow-up as intervention participants. This speaks to the rigor of procedures for securing and confirming contact information as well as the rapport developed by the community health worker with the research participants, who looked forward to her phone calls. In addition, the fact that the intervention site was a primary health-care clinic, where most participants received routine medical care and follow-up, made it slightly easier to track women who may have otherwise been lost. Women often initiated contact with the community health worker or research team members who had a presence in the clinic when they visited for care. This also helped with follow-up.

This study has limitations. First, this was a pilot study and thus involved a relatively small sample. Similar studies should be done on a larger scale, as the results of this study provide evidence of the potential helpfulness of screening and provision of clinic-based IPV services. Such evidence is reinforced by the similar findings from a related study.<sup>38</sup>

The second potential limitation is selection bias, in that women who agreed to participate in the intervention may have

been more ready to act. However, analysis revealed no significant relationship between stage of readiness, as measured by the stages of change scale, and safety-promoting behaviors. In addition, even women who were more ready to act may not have taken the initiative to do so without being given the intervention opportunity or having the abuse acknowledged by an outside person. As identified by Gerbert et al.,<sup>14</sup> women may feel validated by a health provider's recognition and acknowledgment of the abuse, that the behavior of the person who abused her was wrong, and that she deserved better treatment. This validation could provide comfort and relief for women and help them recognize the seriousness of their situation and begin to change it. Thus, it is conceivable that providing on-site intervention services may equip women with the educational and psychological tools necessary for her to act.

Lastly, there are some women who may have been reluctant to reveal abuse experiences to strangers (the research team) or may not yet acknowledge their experience as abuse, and we may have missed those women. There will likely always be such women in this type of setting, as this population was not seeking IPV services when recruited. They, therefore, differ from women in settings (e.g., domestic violence shelters, personal protection order offices) where they usually have initiated help-seeking behaviors and are more likely to reveal abuse experience. The results of this study and others, however, indicate that a number of women are reached via the means of screening in a medical setting and benefit from the provision of intervention services, a justification for making them available in such settings.

## Conclusions

The results of this study show that women who participated in a clinic-based telephone intervention, which included an initial, on-site, personalized counseling session, significantly increased their safety-promoting behaviors by the conclusion of the intervention. Thus, these results provide support for the potential effectiveness of such interventions in identifying and increasing safety among this population. Interventions that follow such a protocol are less cumbersome on women, as they need not inconvenience themselves by coming in specifically for meetings with an interventionist, as is required with similar interventions. This model is also less taxing of resources, as it does not require a full-time, trained, on-site interventionist or social worker to conduct the follow-up contacts. Community health workers, who may potentially be clinic staff, can be trained and initiate phone calls on a part-time basis.

Clearly, women benefited significantly from this low-level intervention. Medical clinics should consider the significant impact of experiencing violence at the hands of an intimate partner and engage in a process of routine screening and provision of intervention services. This report provides one potential model for such services.

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## Disclosure Statement

The authors have no conflicts of interest to report.

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