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Witnessing Intimate Partner Violence as a Child Increases the Likelihood of Becoming a Perpetrator, but Not Becoming a Victim

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Abstract

Background: The association of perpetrators of intimate partner violence (IPV) with drug and alcohol use, abuse as a child, age, socioeconomics and race has been established. The relation between IPV perpetrators and being an adult who witnessed IPV as a child (ACW) is not fully established, although in a previous study no association was found between IPV victims and ACWs.

Objective: The objective of the present study was to determine whether perpetrators of IPV could be identified in a busy emergency department (ED) and were more likely than non-perpetrators to be ACWs. The hypothesis of the present study was that perpetrators differed significantly from non-perpetrators in being ACWs, in being victims of IPV, and in demographics, drug and alcohol use, and history of child abuse.

Methods: The design was a cross-sectional cohort of patients presenting to a high volume academic emergency department (ED) during 46 randomized 4-hour shifts determined via random numbers table 11/09/06-1/8/07. A choice of confidential computer touch screen data entry program or paper format was offered for collecting data. Data collected included demographics as well as scales to determine whether subjects were a perpetrator, victim, and/or ACW of IPV. Specific scales included a validated scale for perpetrators of IPV (PAPs), a single question for determining witnessing abuse as a child (ACW), and a validated scale, the ongoing violence assessment tool (OVAT) for ongoing victimization of IPV. Two other scales, the AWA and the WOVAT were used to confirm the construct validity of the scales used for perpetrators and ACWs. Predictor variables were ACW, ongoing IPV (OVAT) and demographics.

Main Outcome Measures; Statistical analysis: Demographics and prevalence were reported as percentages. Relationships between perpetrators, ACWs, and victims were described using 2 way contingency tables. Predictors of perpetrators were analyzed using multivariable logistic regression. Odds ratios (OR) and 95% Confidence intervals were reported where indicated.

Results: 236 subjects were entered, 207 had complete data sets. Forty-four (19%) were perpetrators. By univariate analysis there was a significant correlation of perpetrators and ACW (p=0.001 by single question) and between perpetrators and being IPV victims (p=0.001). There was no significant correlation of perpetrators with race, education, gender, insurance, children in the home, marital status, or abuse as a child. Perpetrators reported they and their spouses were more likely to use alcohol in excess and admitted to spouses' abuse of drugs, but not their own. By regression analysis significant predictors of perpetrators included ACW (OR 2.7; 95% CI 1.8, 11.3), and spouse drug abuse (OR 7.7; 95% CI 1.7, 34).

Conclusion: Perpetrators were identified in a busy ED setting. Perpetrators were significantly more likely than non perpetrators to be ACWs but not more likely to be IPV victims. Spouse drug abuse and ACW were the 2 significant predictors of perpetrators.

INTRODUCTION

Background: Previous studies have shown an association of adverse childhood experiences (ACEs) with intimate partner violence (IPV) as an adult (1, 2, 3). In addition, those exposed to IPV early in life are known to have poor physical health, mental health, and involvement in risks that lead to poor health and even death (4). Negative childhood experiences include both witnessing adult IPV as a child (ACW) and abuse as a child, leading to perpetuation of the cycle of IPV. Adult child witnesses of IPV (ACW) is defined as an adult with childhood exposure to adult IPV, including directly viewing the violence, hearing it, being used as a tool of the perpetrator and experiencing the aftermath of the violence. Problems from the exposure may start at a very young age and include physical as well as psychological problems, developmental problems (5) as well as perpetration of physical and social violence such as bullying and related violent behaviors (1). If unchecked, these problems often continue into adolescence and into adult life. While many studies show associations in childhood of internalizing behaviors such as depression and regression in girls (1, 6) and externalizing or violence behaviors in boys, (1-6) only a few studies have sought to investigate the effects of ACW on adult IPV. An association among child abuse experience, ACW, and acceptance of violence in intimate behaviors in adult intimate relationships has been shown (7).

In a recent study by Ernst et al, where they looked at ACWs and IPV Victs among adult ED patients, they did not find an association between ACW and ongoing IPV victimization (8). However, other studies have found such an association. Coker et al showed a 4 fold increase in risk of adult partner physical and sexual abuse among women who had witnessed parents' abuse as a child (9). In a study by Bensley et al the authors found that women reporting childhood

physical abuse and witnessing IPV (ACWs) had four to six times the risk of physical abuse as adults (3); however, ACW was not examined separately in this study.

Importance: Witnessing abuse as a child is concerning because of the future impact and perpetuation of the cycle of violence. It is thought that 3-10 million children are exposed to physical and verbal spousal abuse each year (10,11). Screenings by pediatricians have shown that 2-6% of children are in homes with IPV (10). The spectrum of children's experiences with familial violence is vast, from forcing a child to watch the assaults, to using them as a hostage, to listening from the other room (12). It has been shown that violence results in violence by learned behaviors and acceptance of violence as if it were a normal part of life, (13) to include becoming a perpetrator of adult IPV (14, 15).

Goals of This Investigation: Although it is believed that being an ACW is related to becoming a perpetrator, few studies examine this relationship. There is limited research on the overall impact and after-effects that witnessing IPV as a child has on an individual's future acts (16). The hypothesis of the present study was that perpetrators could be identified in a busy ED setting and that they differed significantly from non-perpetrators in being ACWs, in being Victs of IPV, and in their demographics.

METHODS

Theoretical Model of the Problem: Screening for IPV perpetration can be accomplished in a busy ED setting, and an association of being ACWs can be determined.

Study Design: The study was a cross-sectional cohort study of patients presenting in the ED.

Setting: The site was an urban level 1 trauma center emergency department with an annual census of 60,000 adults.

Selection of patients: Recruitment of subjects for the study occurred every day of the week, with randomized 4-hour shifts, and with a consecutive sampling from Nov 19th 2006 to Jan 8, 2007. Five days corresponding to university holidays during that period were excluded. There were a total of 46 shifts.

Inclusion Criteria: Male and female patients were included if they were 18 years of age or older, and if they spoke English or Spanish. Computer and paper screening tools were offered based on patient's preference. The computer and paper screening tools as well as the consent form were available in English and Spanish. All patients who checked into the ED in the triage or lobby area of the ED during the designated 4-hour block for that day were considered eligible.

Exclusion Criteria: Patients who were too ill, had an arm injury that prevented use of a computer or writing, were too intoxicated, psychiatrically unstable, or unable to read English or Spanish were excluded. Patients who arrived by EMS (Emergency Medical Services) who were taken immediately to resuscitation or acute treatment areas were also excluded.

Records were kept of all subjects who were approached for enrollment and reasons for not including them were recorded. Those who refused participation had age, race and reason for refusal recorded.

Back Translation of the Survey Instruments: The Spanish version of the survey was translated by the Translation Office in the Hospital and back translated by two fluent bilingual Spanish and English speakers.

Interventions: Subjects were approached at triage in the ED or as they were brought to a bed by EMS. They were asked the following in either English or Spanish 1) whether they would participate in a research survey study about IPV, and 2) if they preferred to do the study on the computer or on paper.

Data Collection and Processing: Eight trained research assistants were educated to understand the background, theory and logistics of the research study, and they collected data during the randomized four-hour shifts.

The program on touch screen computer was developed in visual basic 2005 studio. There were 17 consecutive data entry screens in a choice of English or Spanish. There were three separate opportunities during which time the subject could choose to stop answering the questionnaire. Data from the computer version was automatically input into an Access 2003 database.

The questionnaire in paper form was a 4-page form in the same format as the touch screen version. The subject was given the paper survey and a pencil if that is the version they chose. The subject could stop at any point if using the paper format. The written survey was deposited into an anonymous box when completed. The box was kept away from the research associates. The written survey data was input manually.

After agreeing to do the study and reading the consent, the subject would chose which method they wanted to use to answer the survey. If they chose the computer they began the 17 screen version of the study in a semiprivate area. If they chose paper, they sat and filled out the paper version also in a semiprivate area.

The Survey Instrument: The survey was an instrument offered as a touch screen computer format or written format at the subject's discretion. The questionnaire included the following 5 tools: 1). The PAPS (Physical Abuse of Partner Scale) 2).the NPAPS (Non-Physical Abuse of Partner Scale) (17). 3). The AWA tool (Attitude Toward Wife Abuse Scale) 4). The OVAT (18) (ongoing violence assessment tool) and 5). The WOVAT. In addition, a single question about

being an ACW was included from Ernst's previous study (8). We also included a question about current child witnesses of IPV (CCW) in the home.

To confirm the construct validity of the primary scales we used 2 secondary scales. For ACW, we used the single question "Did you witness violence between your parents/step parents as a child?" as our standard with a 4-question WOVAT scale, based on the OVAT, used to confirm its construct validity. For perpetration of IPV we used the PAPs (physical abuse of partner scale) as our standard (17) with the Briere scale (13) (Attitude toward Wife Abuse— AWA) used to confirm its construct validity.

Demographics: The data forms included demographic information (including age, race, gender and marital status), questions about use of drugs and alcohol, presence of children in the home, questions about previously witnessing or experiencing IPV, whether there were current children witnesses of the IPV (CCWs) and whether they considered themselves victims of child abuse.

Survey Tools: Both the PAPs and the NPAPs are 25 question scales answered on the range from "Never" to "All of the Time". Scoring was based on the original studies (13,17). The validated AWA tool (Attitude Toward Wife Abuse Scale) is an eight question scale (13) with each question scored on a Likert scale from "strongly disagree" to "strongly agree". The validated OVAT (18) is a 4-question scale to determine ongoing IPV victimization. The WOVAT, based on the OVAT, a 4-question tool determining ACWs was used to assess childhood witnesses of adult IPV (18). In addition, a single question about being an ACW from Ernst's previous study (8) was included

Outcome Measures: The PAPs was chosen as outcome measure based on face validity. Each PAPs question was scored on a Likert Scale with 7 possible responses (1=Never, 7=always). An answer other than 1 on any question was considered a positive outcome.

Independent Variables: Independent variables including age, race, education, income, insurance, gender, marital status, alcohol or drug use, partner alcohol or drug use, OVAT results, AWA, child abuse history, ACW single question and WOVAT results were analyzed. ACW was defined as positive based on a "yes" response to the single question about ACW.

For the subjects who refused to answer parts of the questionnaire, the subject would just mark a box "no answer". All "no answer" responses were removed on a case by case basis for univariate analysis and on a listwise basis for regression analysis. The PAPs result was considered as long as greater than 80% of the questions were answered.

Primary Data Analysis and Sensitivity Analysis: For demographics and prevalence, descriptive statistics and percentages were used. Two way contingency tables were used to compare Perps versus non-Perps to ACWs; percent differences and 95% CIs and Chi square were used. To determine predictors of Perps, Chi Square analysis and 95% CIs between independent and outcome variables were used. We also used descriptive statistics to compare those choosing computer versus paper formats for data entry.

A power analysis was performed a priori. Assuming a prevalence of perpetration of IPV of 20% based on previous screening studies of IPV in the ED, (18, 19, 20), the study was powered at 80% with 186 subjects to find a difference of 20% between Perps and non-perps in ACWs and demographics.

Regression Analysis: Univariate results with P<0.05 was used as entry criterion into a multivariable logistic mode with Perps as the outcome variable; maximum model was based on one predictor for every 10 Perps. A regression model was developed using a maximum of 1 variable for 10 Perpetrator subjects enrolled in the study. The regression model was formally assessed for the presence of multicollinearity using a regression eigenanalysis, with a condition

index greater than or equal to 30 indicative of moderate to severe co linearity as described by Uchino et al in a study of acute renal failure (21). We also used the Hosmer-Lemeshow goodness-of fit test for the regression model. With this test, a significant result ($p<0.05$) would indicate a poor fit between the dataset and the model. (22)

IRB Approval-Waiver of Documentation of Informed Consent: The study was approved by the Human Research Review Committee who waived documentation of written informed consent. The study was considered minimal risk; oral presentation of informed consent items was required, with a copy of a consent presented to each subject, but they were not required to sign. This was considered appropriate because requiring written consent with copies to the medical record would risk breach of confidentiality (23).

RESULTS

Characteristics of Study Population: 184 hours of data collection was performed (representing forty-six 4-hour shifts). 412 patients were registered and in the waiting area during the times of the study; 150 were excluded, leaving 262 eligible. The 150 excluded included 88 who were too ill or unable to participate, 15 had an arm injury preventing use of a computer or filling out a survey, 17 had a language barrier, 9 were intoxicated or drugged, or had an altered level of consciousness, and 21 had psychiatric problems precluding participation.

Twenty-six eligible subjects (10%) refused participation, leaving 236 (90%) who participated. Of the 26 who refused participation: average age was 41, 11(42%) were women. There was no difference in demographics in those who refused compared to those who participated in the study. Of the 236 (90% of eligible) who participated, there were 111 (47%) male subjects, 100 (42%) Hispanic subjects, and 87 (37%) single, 62 (26%) married, 42(18%) divorced. Annual income was less than $20,000/year for 44%. 46% completed only a high

school education while 17% did not finish high school. 21% were uninsured, 21% had Medicaid or Medicare and 10% had private health insurance. Of the 236, median age was between 30-40, 91% took the survey in English. 84(36%) of the subjects who had children at home, 23 had witnessed IPV. 55 (23%) of adults were abused as children. See Table 1.

Main Results

Choice of format: Significantly more subjects chose paper (167/236, 71%) compared to computer (69/236 29%) format (Diff 42%; 95% CI 33,50). There were no differences between those who chose paper versus computer for percent who were Perps (p=0.65), child witnesses (p=0.49) or IPV victims (p=1.00). There were no differences in demographics (age p=0.91, education, p=0.71, race p=0.1, gender p=0.4, or income p=0.1) in those who chose paper versus computer formats. Those who chose the computer format were significantly more likely to respond that they chose this format because it was easier. Other reasons did not show significance. See Table 2.

Non-responses to questions: For some questions subjects refused to answer parts or the entire questionnaire. The most frequently avoided questions were about income (N=69, 29%), 2nd most frequently skipped was insurance (N=63, 27%), and spouse use of drugs and alcohol (65 (27%) and 70 (30%) respectively). Seventeen percent avoided questions about drugs for themselves and 15% avoided questions about self use of alcohol. Specific questions about Perp were avoided 12% of the time, whereas 3-4% omitted answers about gender and race.

IPV Perpetrators: The PAPs and AWA were significantly correlated (r= 0.33) indicating good construct validity for our outcome measure. In comparing to the PAPS as the standard, the AWA results were the following: Sensitivity 54%, Specificity 82, Negative Predictive Value 86%, Positive Predictive Value 44%, Accuracy 76%.

Of the 236, 29 did not answer the questions about perpetration of IPV, leaving 207 subjects for full analysis. Based on the PAPs scale, forty-four subjects were Perps (19% of total) and 163 were non-Perps. Of the 207 with all results available, 55% of Perps were ACW compared to 27% of non-perpetrators. Perps were significantly more likely than non-Perps to be ACWs (OR 3.2; 95% CI 1.6,6.8). 45% of Perps were Victs (OVAT+) compared to 20% of non-Perps were Victs (OVAT+). Perps were significantly more likely than non-Perps to be Victs (OR 3.4; 95%CI 1.6, 7.4). Perps were also significantly more likely to have children at home witnessing IPV (OR 3.4) and to consider themselves Victs (OR 3.4). Perps and their spouses were also significantly more likely to use alcohol (OR 2.8 for self report; OR 3.8 for report of spouse's use). See Table 3. Perps were significantly more likely than non-Perps to admit to use of alcohol and admit to spouses who use drugs, but not personal drug use. Numbers of children in the home and abuse as a child were not significantly different between Perps and non-perpetrators. These results are summarized in Table 3.

ACW (child witnesses): The single questions for ACW and the WOVAT correlated significantly (r=0.65; p<0.01) indicating good construct validity for our single question measure. 74 (31%) were positive for ACW by single question; 91 (39%) were positive by WOVAT. In comparing to the single-question ACW as the standard, the WOVAT results were the following: Sensitivity 85%, Specificity 83%, Negative Predictive Value 92%, Positive Predictive Value 69%, Accuracy 83.4%.

IPV Victims: Of the 236, 58 (25%) were Victims of IPV. There was no correlation between being Victs and ACW (p=0.1) or WOVAT (p=0.06).

Regression Model: For the regression model, listwise exclusion required the removal of a total of 29 subjects from the regression analysis.

Non significant predictors by univariate analysis included race, education, income, insurance, gender, marital status, abuse as a child. The significant predictors by univariate analysis were ACW, the WOVAT, being Victs, alcohol use by self and partner, and drug use by partner (see Table 3).

Because there were 44 Perps of IPV, 4 predictors could be entered in the regression model to determine significant predictors. The variables included 4 variables that had a significance of <0.01. The AWA and WOVAT were not used in the model since they were secondary scales. We included the ACW tool; Victs tool (OVAT); whether spouses used drugs; and subjects' use of alcohol. By regression analysis, ACW and spouses use of drugs were significant predictors of Perps. When adjusted for these 2 significant predictors, the OVAT and subjects' use of alcohol were not predictive of Perp. Perps were significantly more likely to be ACWs (OR 2.6; 95% CI 1.1, 5.8) and to have a spouse who used drugs (OR 5.7; 95% CI 1.3,26) (See Table 4).

Because there were 44 Perps (by PAPs+) we were not concerned with an overfit with the 4 variables that met entry criteria from the univariate analysis. The Hosmer-Lemeshow goodness of fit test indicated very good calibration for the variables (χ^2 =2.1, degrees of freedom df=4, P=0.73). 2-way comparisons between the significant predictor variables ACW versus PAPs, PAPs versus Spouse drug abuse, and Spouse drug abuse versus ACW were all non significant. Maximum condition index for the comparisons was 21, indicating that moderate to severe co linearity was not present for these comparisons. The model was therefore a good fit for the data. Adjusted odds ratios with corresponding confidence intervals (CIs) and p-Values are summarized in Table 4.

DISCUSSION

We were able to show that screening for Perps is possible in a busy ED. This is one step toward intervening with IPV perpetration.

The present study is unique in screening for perpetrators as well as for victims of IPV. We found a significant number of perpetrators of IPV using 2 screens, the PAPs and AWA. This study confirmed Ernst's previous screening in the ED, which found similar numbers of those positive for IPV victimization (24, 25), including ongoing IPV (18, 24, 25). Previous studies have shown this to be true in the ED in both women (24,26) as well as men (24, 27-30). Among ED patients there is a high prevalence of family violence.

Being able to identify Perps in a busy ED setting is important. Previous study shows that perpetrators are not identified in medical settings, although they often present in health care settings (31). Sugg et al showed most MDs have never identified perpetrators of IPV (32). Health care settings including the ED may be a good place to identify and intervene for perpetration of IPV.

We found that when subjects were allowed the choice of touch screen computer entry or paper format, they were significantly more likely to choose the paper format. The reasons are unclear; however, providing both formats yielded better percentages of those willing to participate than in previous studies. In Ernst's previous study, 28% of those eligible refused participation (8), while in the present study only 10% refused participation. MacMillan et al showed that subjects preferred self entry to face-to-face formats; however this study did not show preferences for type of self entry format (33). Both formats provided an opportunity to ensure anonymity as well as to include our large Hispanic population, with the screens and paper formats available in English as well as Spanish. Screening in the ED for domestic abuse is

difficult; as a result other authors have utilized touch screen computers for ease as well as to ensure anonymity to encourage and ensure wide participation (34). Offering both formats may be the best approach. A randomized trial of paper versus computer format is warranted.

Another unique aspect of this study is that our HRRC (human research review committee or IRB, institutional review board) allowed a modification of informed consent to include a waiver of documentation of informed consent, which allows entry into the study without signature of the participants. This is allowed when the research is minimal risk and the only record linking the subject with the research would be a consent form and the only potential harm of the study, or when the procedures involved do not normally require consent outside of the research context (23). In this situation informed consent must be obtained orally, to include all elements of informed consent and may require a written copy of a consent form or summary. In this case the HRRC required a copy of a consent form be given to subjects but waived the necessity for a signature.

As we had no prior experiences in screening for Perps, we chose to use 2 screens, each with a differing approach to screening for IPV Perps. The PAPs (17) shows actual use of force in relationships but does not distinguish past versus present. The PAPs scale is long and some in our study did not respond to the full scale or refused to reply at all. We chose this scale as our gold standard as it actually showed perpetration of physical violence in a relationship. The AWA does not test for actual physical use of force in IPV and shows a propensity to use violence in certain situations (13). A shortened validated scale that could be easily applied in a busy clinical setting is desirable.

Our study is unique in screening a busy ED population for Perps and asking about prior ACW. Perp and ACW have been linked; however, a large screening such as ours and relating

Perps and ACWs on a large scale has not previously been done. Associations of childhood experience with IPV have shown associations with adulthood victimization and perpetration in prior studies (3). Witnessing IPV is defined as multiple ways of exposure to IPV as a child. These include direct viewing, hearing violence, being used as a tool of the perpetrator and experiencing the aftermath of the violence (12). Sometimes the victim parent is unaware the child is aware of the violence and feels he or she is protecting the child from exposures. This is often not the case and the child is fully aware of happenings in the household.

Our study showed that Perps were more likely than Non-Perps to have been ACWs. Ernst's previous study has shown that perpetrators are likely to have witnessed IPV as children. When children are exposed to IPV they are less socially competent and more anxious and have more sleep, attention and learning disorders than children not exposed to IPV (5, 10, 35, 36). These disorders intuitively affect all aspects of these children's lives including school, home and their adult intimate relationships. From a health care perspective, these children have higher incidence of asthma, gastrointestinal problems, headaches and colds (16,37). They are more aggressive toward their peers and show more antisocial behavior (10). They are also more likely to later abuse drugs and alcohol (15). Additionally, children who witness violence in the home begin the formulation of an attitude that violence is justified in conflict resolution (12). The long term impact is that an astounding association has been shown in the literature with childhood victimization and increased rates for both perpetration and victimization of IPV (15).

Our study showed that Perps were also often victims of IPV. A difference in girls and boys has been shown with boy child witnesses (CWs) significantly more likely to approve of violence than girl CWs (38). CWs are more likely to be aggressive toward peers, with boys more likely to use physical aggression and girls more likely to internalize behaviors including

depression, anxiety and eating disorders (1,39). Bauer et al showed that CWs are more likely to be involved with bullying in a community based cohort of children 6-13. Most of these were also victims themselves (16). A previous study in the ED setting has shown that male victims of IPV, including those who present for injuries inflicted by female partners, were likely to be perpetrators of IPV. They may be injured in self defense by a victim partner (30).

There are no validated tools to screen for ACWs. In Ernst's previous study they used a single question (8). For the present study we used the single question and a 4 question scale we created (18). In the present study we found the single question and WOVAT correlated well; therefore we chose to use the single question as a gold standard due to its ease of use and very good accuracy in comparison to a 4 question scale.

The present study continues to support that ACWs are not more likely to be Victs, but are more likely to be perpetrators of IPV. The above is consistent with Ernst's previous findings and the present study, that witnessing abuse as a child leads more to perpetration than victimization of IPV. Ernst's previous studies have shown that perpetrators have significantly more exposure to witnessing IPV as children (40) but that victims were **not** more likely to have witnessed IPV as children (8). We used Ernst's previously validated tool, the OVAT. This scale does not test for prior IPV exposure, only ongoing IPV (18). The learned process is negative in allowing acceptance of violence as an instigator, not as a victim. Children may be able to learn to avoid relationships as victims themselves when exposed. This supports interventions early in childhood as well as in males to end the cycle of violence.

Other studies have shown acceptance of IPV particularly in males, younger adults, non-whites, those with lower income and education (41). Men who were ACWs are twice as likely to abuse their own wives as compared to sons of nonviolent parents (42). Another study showed

that female victims of IPV showed early education and socialization to violence and normalization within their lives and the lives of their families. However, no comparison to unexposed groups or perpetrators was offered (14).

Our study showed that Perps admitted to alcohol use and drug use in their partners, but not to their own use of drugs. Failure to admit to their own use of drugs is likely related to the stigma of drug use and may not have been truthful in all cases. Adolescents involved with an abusive partner report increased levels of substance use and antisocial behaviors. (43) Dube et al found that there was a graded increased risk for alcohol and drug use in those ACWs that increased as the frequency of witnessing IPV increased. This leads to furthering the cycle of violence. (44).

There are several strengths of our study. This is the first study of screening for Perps in the emergency department. The study was adequately powered and included men and women screened with a gender neutral screen for perpetration of IPV, the PAPs and the AWA, as well as for victimization of IPV, the OVAT (18). The study was done over randomized four hour shifts to include all days of the week and all hours of the day to minimize bias. Offering either the anonymous touch screen computer or paper formats led to fewer refusals to participate. The waiver of documentation of informed consent allowed us to preserve anonymity and minimize contact between research associates and subjects. The questionnaire was provided in both English and Spanish with a large Spanish-speaking population. Hispanic patients refused participation more often than Caucasian; however this was not significantly different.

We have shown the ED is a place where identifying IPV Perps can be targeted. The CDC is interested in primary intervention for perpetration of IPV (45). This may be an important area to intervene, perhaps at an early age to help end the cycle of IPV. Perhaps a brief intervention

in the ED is a much needed approach in corresponding to the CDCs intervention hopes to end the cycle of IPV. Adults who are currently in an abusive relationship should have children screened for being abused and witnessing IPV in the household as well.

Limitations: Limitations include that subjects may have been unwilling to participate in a study regarding a touchy controversial topic, perpetration of IPV and witnessing IPV. Some did not fully respond to the entire questionnaire, indicating a shortened, validated scale is desirable.

There is no validated tool to determine whether someone has witnessed abuse as a child. As such, use of a single question or the WOVAT 4-questions in this regard have not been validated. Perhaps other questions should have been included.

There is potential that much of the final sampling may not have been currently living with a spouse or partner, thus leading to a decreased number of subjects with potential exposure to an intimate relationship and ruling out potential for IPV. Future studies limiting inclusion to those with an ongoing (or at least within the last year) intimate relationship may be warranted.

Future Studies: Future studies include randomizing anonymous touch screen and paper formats for screening IPV, attempting to validate a shortened scale for perpetrator screening, and including interventions such as educational videos for batterers as well as children who have witnessed IPV in efforts to break the cycle of IPV. Outreach programs for high school and college students utilizing recovering victims of IPV could affect the cycle of violence as well.

CONCLUSION

We showed that ED screening is possible and that 19% of this population were perpetrators. Respondents preferred paper over computer format but when used together the number of refusals decreased. The results of this study support the hypothesis that Perps were

more likely than non Perps to be ACWs. Perps were not significantly more likely to be Victs. Spouse drug abuse and ACW were the 2 significant predictors of Perp.

TABLES

Table 1: Demographics of 236 participants

Total N=280	N (%)
Language	
Spanish	22 (9)
English	214 (91)
Age	
18-20	20 (8)
21-30	73 (31)
31-40	44 (19)
41-50	45 (19)
>50	46 (20)
Unk	8(3)
Education	
Not high school grad	41 (17)
High School grad	108 (46)
College Grad	35 (15)
Professional degree	17 (7)
Unknown	35 (14)
Gender	
Male	111(47)
Female	117 (50)
Unknown	8 (3)
Race	
African Am	8 (3)
American Indian	23 (10)
Caucasian	91 (39)
Hispanic	100 (42)
Other	5 (2)
Unknown	9(4)
Marital Status	
Married	62 (26)
Single	87 (37)
Widowed	12 (5)
Divorced	42 (18)
Other	23 (10)

Unknown	10 (4)
Insurance	
Self	50 (21)
Medicare/Medicaid	49 (21)
Private	24 (10)
Other	50 (21)
Unknown	63 (27)
Income	
<10k	63 (27)
10-20,000	41 (17)
20-40,000	42 (18)
>40,000	21 (9)
Unknown	69 (29)

Table 2: Reasons for choosing format

	Computer format N=69 (29%)	Paper Format N=167 (71%)	Odds ratio, 95% CI Crossing 1 is NS
Easier*	30 (44%)	40 (24%)	2.4 (1.3,4.6)*
More confidential	3(4%)	15 (9%)	0.5 (0.1,1.8)
Faster	16 (23%)	28 (17%)	1.5 (0.7,3.1)
Can't use computer	3 (4%)	15 (9%)	0.5 (0.1,1.8)
Other	7 (10%)	32 (19%)	0.5 (0.2,1.21)
No reason given	12 (17%)	47 (28%)	0.5 (0.3,1.2)

*Significantly different: More found the computer format easier as a reason for choosing it

Table 3: Perps (PAP+/-) vs. other characteristics. 29 of the original 236 did not have PAPs results

	Total N (%)	PAPs+(N%) Perps	PAPs– N(%) Non Perps	OR (95% CI)	P
	207	**44**	**163**		
POSITIVE ON THE SCREEN					
OVAT	52	20 (45%)	32 (20%)	3.4 (1.6, 7.4)	<0.01*
AWA	52	23 (53%)	29 (18%)	5.1 (2.3, 11)	<0.01*
WOVAT	84	27 (47%)	57 (35%)	3.0 (1.4,6.2)	<0.01**

POSITIVE FOR THE FOLLOWING					
Child Witness of IPV (single question)	68	24 (55%)	44 (27%)	3.2 (1.6, 6.8)	<0.01*
Consider self a victim of IPV	18	8 (18%)	10 (6%)	3.4 (1.1, 10.2)	0.02
Your children at home have witnessed IPV	23	10 (23%)	13 (8%)	3.4 (1.3, 9.2)	0.02
You were Abused as a child	55	16 (36%)	39 (24%)	1.8 (0.8, 3.9)	NS
Alcohol ingestion-self	31	12 (27%)	19 (12%)	2.8 (1.2,6.9)	0.02
Alcohol ingestion-spouse	17	8 (18%)	9 (6%)	3.8 (1.2, 11.7)	0.02
Drug ingestion-Self	17	7 (16%)	10 (6%)	2.9 (0.9, 8.9)	NS
Drug ingestion-Spouse	13	9 (20%)	4 (2%)	10 (2.7, 42)	<0.01*

*4 variables that were entered into the logistic regression model. **Not included in logistic regression model because of high correlation with Single question for ACW.

Table 4: Logistic Regression Analysis: Perps (PAPs+) and significant predictors.

	Adjusted OR	p-value	95% CI
ACW 1 question	2.7	0.02	1.8-11.3
Alcohol use: subject	1.3	NS	0.4, 4.5
Spouse drug use	7.7	<0.01	1.7-35.2
OVAT	1.6	NS	0.6-4.2

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