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Witnessing Intimate Partner Violence as a Child Does Not Increase the Likelihood of Becoming an Adult Intimate Partner Violence Victim

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Abstract

Objectives: To determine whether adults who witnessed intimate partner violence (IPV) as children would have an increased rate of being victims of ongoing IPV, as measured by the Ongoing Violence Assessment Tool (OVAT), compared with adult controls who did not witness IPV as children. The authors also sought to determine whether there were differences in demographics in these two groups.

Methods: This was a cross sectional cohort study of patients presenting to a high-volume academic emergency department. Emergency department patients presenting from November 16, 2005, to January 5, 2006, during 46 randomized four-hour shifts were included. A confidential computer touch-screen data entry program was used for collecting demographic data, including witnessing IPV as a child and the OVAT. Main outcome measures were witnessing IPV as a child, ongoing IPV, and associated demographics. Assuming a prevalence of IPV of 20% and a clinically significant difference of 20% between adults who witnessed IPV as children and adult controls who did not witness IPV as children, the study was powered at 80%, with 215 subjects included.

Results: A total of 280 subjects were entered; 256 had complete data sets. Forty-nine percent of subjects were male, 45% were Hispanic, 72 (28%) were adults who witnessed IPV as children, and 184 (72%) were adult controls who did not witness IPV as children. Sixty-three (23.5%) were positive for ongoing IPV. There was no correlation of adults who witnessed IPV as children with the presence of ongoing IPV, as determined by univariate and bivariate analysis. Twenty-three of 72 (32%) of the adults who witnessed IPV as children, and 39 of 184 (21%) of the adult controls who did not witness IPV as children, were positive for IPV (difference, 11%; 95% confidence interval [CI] = −2% to 23%). Significant correlations with having witnessed IPV as a child included age younger than 40 years (odds ratio [OR], 4.2; 95% CI = 1.7 to 9.1), income less than $20,000/year (OR, 5.1; 95% CI = 1.6 to 12.5), and abuse as a child (OR, 9.1; 95% CI = 4.2 to 19.6). Other demographics were not significantly correlated with having witnessed IPV as a child.

Conclusions: Adults who witnessed IPV as children were more likely to have a lower income, be younger, and have been abused as a child, but not more likely to be positive for ongoing IPV, when compared with patients who had not witnessed IPV.

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Intimate partner violence (IPV) is defined as persistent physical abuse by one adult on another, both of whom are involved in an intimate relationship with the other as a spouse or a partner.[1] Studies suggest that 8%–12% of all women experience some form of IPV in any given year, and approximately 20%–50% of

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all women experience some form of IPV in their lifetime.[2,3] It has been shown that as many as 50% of women presenting to an emergency department (ED) in the United States have experienced some form of domestic violence, and studies have also shown that approximately 3% of all female ED patients are presenting to urban EDs for injuries caused by IPV.[2] Despite the high incidence of IPV victims in the ED, physicians identify only 6% of police-identified IPV victims.[4]

Risk factors for becoming a perpetrator of IPV include childhood abuse or having witnessed parental violence.[5,6] Cunradi et al. showed that women who reported childhood abuse were five times more likely to have experienced severe IPV, and male partners with a history of childhood physical abuse were three times more likely to perpetrate severe IPV.[7] The relationship of witnessing childhood violence and becoming a victim of IPV is not as clear as the relationship to becoming a perpetrator; there are few studies to support this.[8]

There are 3.3 million children in the United States who witness adult IPV per year.[1] Children who witness IPV are more likely to have behavioral problems, including internalizing signs and symptoms, especially depression and anxiety in girls; in boys, externalizing behaviors that are related include aggression, oppositional behaviors, and conduct problems.[9] A few prior studies showed that children who witness IPV are also more likely to be child abuse victims,[10] to use alcohol and illicit drugs as adults,[10] to be victimized as adults by both intimates and nonintimates,[8] and to become a batterer,[11] thus perpetuating the cycle of IPV.

The goals of the present study were to describe the prevalence of adult ED patients who were child witnesses of IPV and to determine the relationship between being a child witness and an adult victim of ongoing IPV. We used the Ongoing Violence Assessment Tool (OVAT),[12] our previously validated screening tool for ongoing IPV. Assessing ongoing IPV may be more important for the ED setting, because those presently involved in IPV may need more immediate intervention, as might their children who are witnessing IPV. Thus, we also sought to determine how many children were witnessing IPV in the homes of our ED patients.

Our hypotheses were that significantly more adults who witnessed IPV as children would have a positive result on the OVAT and that adults who witnessed IPV as children would have significant differences in demographic factors and history of child abuse than those adults who had not witnessed IPV as children.

METHODS

Study Design and Population

The study was a cross sectional cohort study of patients presenting to the ED. The study was approved by the human research review committee, and documentation of written informed consent was waived. The study was considered minimal risk; oral presentation of informed consent items was required, with a copy of a consent form presented to the subjects, but without the requirement for a signature by the subject. This was deemed appropriate because the only risk of the study or potential harm to the patient was a breach of confidentiality, because the subject material was confidential and the only record linking the subject and the research would be the consent form.

The site was an urban Level 1 trauma center ED with an annual adult patient visit count of 60,000. Recruitment of subjects for the study occurred on all days of the week from November 16, 2005, to January 5, 2006, during randomized four-hour shifts with consecutive sampling. Five days corresponding to university holidays during that period were excluded. There were a total of 46 shifts included.

Male and female patients were included if they were 18 years of age or older and if they spoke English or Spanish. The computer screening tools, as well as the consent form, were available in English and Spanish. All patients waiting in the triage or lobby area of the ED and its related urgent care clinic were eligible. Those who were immediately assigned a bed in the treatment area due to acute illness or injury were excluded. Patients who arrived by emergency medical services and who were taken immediately to resuscitation or acute treatment areas were also excluded. Patients who were too ill, intoxicated, psychiatrically unstable, or physically unable to participate in the study were excluded; records were kept of those approached for enrollment and reasons for exclusion. Those who refused participation had their age and race recorded.

Survey Content and Administration

Three local Spanish speakers formulated the Spanish survey, and it was back-translated into English by a fluent Spanish and English speaker after the study was completed. The survey program was on a touch-screen computer and was developed in Visual Basic 2005 Studio (Microsoft Corp., Redmond, WA). There were three consecutive data entry screens offering a choice of English or Spanish.

The data forms included demographic information; questions about previously witnessing IPV as children, whether there were currently any children in their home, and whether their children witnessed IPV in their home; and information about previous violence the patients had experienced as an adult. Also included was the OVAT, a previously validated four-question screen for ongoing IPV.[12] This tool was validated against the 30-item Index of Spouse Abuse[13] screen, the only other validated tool for ongoing IPV, and found to have good sensitivity, specificity, and accuracy.[12,14,15] The OVAT is written in gender-neutral language, is much shorter than the Index of Spouse Abuse (four vs. 30 questions), and is easier to implement via touch-screen computer.[12,13]

Seven trained research assistants were educated to understand the background, theory, and logistics of the research and collected data during randomized four-hour shifts. Subjects were approached at triage in the ED and asked to participate via touch-screen computer in a research survey study about IPV and witnessing IPV as children. After introduction by a research assistant, the 24-item touch-screen computer survey was completed by the research participant in a semiprivate area. Data were input directly into an Access 2003 (Microsoft Corp.) database by the survey program.

Data Analysis

The outcome variable was the dichotomous yes/no answer to the question "Did you witness violence between your parents or stepparents as a child?" Independent variables included age, race, education, income, insurance, gender, marital status, alcohol or drug use, partner alcohol or drug use, OVAT results, and child abuse history.

Some subjects refused to answer parts or all of the questionnaire. Subjects indicated their refusal by checking a box marked "no answer." All records had complete data because subjects were required to either answer questions or pick "no answer." Because all questions had to be answered, the nonresponses were not simply missing data, but were specific questions that the subject refused to answer; therefore, no imputation scheme was used. All "no answer" responses were removed on a case-by-case basis for univariate analysis and on a listwise basis for regression analysis.

For demographics and prevalences, descriptives and percentages were used. Two-way contingency tables were used to compare positive and negative results on the OVAT with having witnessed IPV as a child. To determine predictors of being an adult who witnessed IPV as a child, chi-square analysis and 95% confidence intervals (CIs) between independent and outcome variables were used. Univariate results with $p < 0.05$ were used as an entry criterion into a multivariable logistic mode, with being an adult who witnessed IPV as a child or an adult control who did not witness IPV as a child as the outcome variable; the maximum model was based on one predictor variable for every ten adults who witnessed IPV as children.

A power analysis was performed a priori. Assuming a prevalence of IPV of 20%, based on previous screening studies of IPV in the ED,[12,14,15] and a difference of 20% (again based on previous studies[12,14,15]) between adults who witnessed IPV as children and adult controls who did not witness IPV as children in being victims of IPV, as well as demographic characteristics, the study was powered at 80% with 215 subjects included.

A regression model was developed using a maximum of one variable for ten adults who witnessed IPV as children enrolled in the study. The regression model was formally assessed for the presence of multicolinearity using a regression Eigen analysis, with a condition index ≥ 30 indicative of moderate to severe colinearity as described elsewhere by Uchino et al.[16] We 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 data set and the model.[17]

RESULTS

A total of 184 hours of data collection were performed (representing 46 four-hour shifts). A total of 521 patients were registered and in the waiting area during the times of the study; 125 were excluded, leaving 396 eligible. The 125 excluded patients included 61 who were too ill or unable to participate; 24 who had an arm injury, preventing use of a computer; 13 who had a language barrier; ten who were intoxicated, drugged, or had an altered level of consciousness; and 17 with psychiatric problems precluding participation. A total of 116 of the eligible patients refused participation (a total of 241 excluded or refused participation), leaving 280 (72% of eligible) who participated. Demographic characteristics for those enrolled are listed in Table 1. Of the 116 who refused participation, 64 (55%) were women, and the average age was 41 years. Race representation of refusals included three African American, seven American Indian, one Asian, 30 white, one Polish, one unknown, and 73 Hispanic subjects.

Twenty-four subjects did not answer the question about witnessing IPV as a child, leaving 256 subjects for analysis. The data for the remaining 256 subjects are presented in Table 2. Thirty-two percent of adults who witnessed IPV as children had a positive result on the OVAT at the time of enrollment; 21% of adult controls who did not witness IPV as children had a positive result

Table 1
Demographics of 280 Participants

Characteristic	*n* (%)
Language	
Spanish	28 (10)
English	252 (90)
Age (yr)	
18–20	22 (7)
21–30	91 (33)
31–40	55 (20)
41–50	65 (23)
Older than 50	40 (14)
Unknown	7 (3)
Education	
Not high school graduate	55 (20)
High school graduate	160 (57)
College graduate	37 (13)
Professional degree	16 (6)
Unknown	12 (4)
Gender	
Male	136 (49)
Female	135 (48)
Unknown	9 (3)
Race	
African American	9 (3)
American Indian	19 (7)
Hispanic	126 (45)
White	98 (35)
Other	19 (7)
Unknown	9 (3)
Marital status	
Married	71 (25)
Single	132 (47)
Widowed	8 (3)
Divorced	47 (17)
Other	12 (4)
Unknown	10 (4)
Insurance	
Self	66 (24)
Medicare/Medicaid	67 (24)
Private	30 (11)
Other	57 (20)
Unknown	60 (21)
Income ($)	
<20,000	163 (58)
>20,000	58 (21)
Unknown	59 (21)

Table 2
Prevalence: Victims of IPV (OVAT positive), Adult Child Witnesses to IPV at Home, Children at Home, Abused as Children, and Consider Self a Victim of IPV

	All (*n*) %	Adults Who Witnessed IPV as Children, *n* (%)	Adult Controls Who Did Not Witness IPV as Children, *n* (%)	Percent Difference (95% CI)	p-value
N	256	72	184		
OVAT result					0.07
Positive	62 (24)	23 (32)	39 (21)	11 (−2, 23)	
Negative	190 (74)	48 (68)	142 (76)	8 (−2, 20)	
Unknown	4 (2)	1 (0)	3 (3)		
Children at home					NS
Yes	102 (40)	28 (39)	74 (40)	1 (−1, 1)	
No	152 (59)	44 (61)	108 (59)	2 (−1, 2)	
Unknown	2 (1)	0 (0)	2 (1)		
Your children at home have witnessed IPV					0.07
Yes	26 (10)	11 (15)	15 (8)	7 (−2, 16)	
No	225 (88)	58 (81)	167 (91)	10 (2, 20)	
Unknown	5 (2)	3 (4)	2 (1)		
You were abused as a child					<0.01
Yes	72 (28)	43 (60)	29 (16)	44 (31, 56)	
No	177 (69)	26 (36)	151 (82)	46 (34, 58)	
Unknown	7 (3)	3 (4)	4 (2)		
Consider self a victim of IPV					0.01
Yes	29 (11)	14 (94)	15 (8)	11 (1, 21)	
No	227 (89)	58 (81)	169 (92)	11 (1, 21)	
Unknown	0 (0)	0 (0)	0 (0)		

Twenty-four subjects were excluded from analysis because they did not answer questions about having witnessed IPV as children.
IPV = intimate partner violence; OVAT = Ongoing Violence Assessment Tool; NS = not significant.

on the OVAT. There was no significant relationship between adults who witnessed IPV as children and having a positive result on the OVAT.

Responses to other prevalence questions included use of alcohol or drugs by the subject or spouse, as well as calls to 9-1-1 or previous presentations to the ED for IPV. These are summarized in Table 3. The adults who witnessed IPV as children made significantly more calls to 9-1-1 compared with the adult controls who did not witness IPV as children; otherwise, there was no difference. For analysis of data presented in Tables 2 and 3, "no answer" responses were removed from the analysis on a case-by-case basis.

Significant Predictors

Seven predictors were nonsignificant by univariate analysis. These included race, education, insurance, gender, marital status, alcohol or drug use, and partner alcohol or drug use. The three significant predictors by univariate analysis were age, income, and a history of child abuse. Adults who witnessed IPV as children were more likely than adult controls who did not witness IPV as children to be younger than 40 years (76% vs. 56%; difference = 20%; 95% CI = 8 to 33), to have income less than $20,000/year (76% vs. 57%; difference = 19%; 95% CI = 8 to 32), and to have a history of child abuse (60% vs. 16%; difference = 44%; 95% CI = 32 to 57); $p < 0.01$ for these differences.

A total of 256 cases had answered yes or no to the question about being adults who witnessed IPV as children and were considered eligible for entry into the logistic model. The inclusion of the three significant predictor variables into the regression model required the removal of 51 cases for "no answer" responses to one or more of the three variables, leaving 210 cases for entry into the model. Of these 210 cases, 59 were positive for being a child witness, allowing for a maximum entry of six variables into the final model. We therefore were not concerned with an overfit with the three variables that met entry criteria from the univariate analysis. The Hosmer–Lemeshow goodness-of-fit test indicated very good calibration for the variables (chi-square = 3.767, *df* = 5, $p = 0.583$). Adjusted odds ratios with corresponding CIs and p-values are summarized in Table 4.

Multicolinearity

Two-way comparisons between the significant predictor variables of age versus income, income versus history of child abuse, and history of child abuse versus age were all nonsignificant. Maximum condition index for the comparisons was 12.1, indicating that moderate to severe colinearity was not present for these comparisons.

Nonresponses to Questions

Some subjects refused to answer parts or all of the questionnaires. The most frequently avoided questions were about insurance status (*n* = 60; 21%), income (*n* = 59; 21%), and spouse use of drugs (16%) and alcohol (15%). Six percent avoided questions about drugs for themselves, and 4% avoided questions about self-use of

Table 3
Prevalence: Alcohol/Drug Use by Subject or Partner, Calls to 9-1-1, and Presented to ED for IPV-related Problem

	All, *n* (%)	Adults Who Witnessed IPV as Children, *n* (%)	Adult Controls Who Did Not Witness IPV as Children, *n* (%)	Percent Difference (95% CI)	p-value
N	256	72	184		
Alcohol ingestion: self					NS
Yes	37 (14)	12 (17)	25 (14)	3 (−6, 13)	
No	217 (85)	60 (83)	157 (85)	3 (−1, 8)	
Unknown	2 (1)	0 (0)	2 (1)		
Alcohol ingestion: spouse					NS
Yes	30 (12)	11 (15)	19 (10)	5 (−4, 14)	
No	195 (76)	53 (74)	142 (77)	3 (−2, 8)	
Unknown	31 (12)	8 (11)	23 (13)		
Drug ingestion: self					NS
Yes	20 (8)	8 (11)	12 (7)	4 (−3, 13)	
No	230 (90)	63 (88)	167 (91)	3 (−12, 5)	
Unknown	6 (2)	1 (1)	5 (2)		
Drug ingestion: spouse					NS
Yes	19 (7)	7 (10)	12 (7)	3 (−4, 11)	
No	203 (79)	57 (79)	146 (79)	0 (−1, 1)	
Unknown	34 (14)	8 (11)	26 (14)		
Calls to 9-1-1					0.01
Yes	23 (9)	11 (15)	12 (7)	8 (0, 18)	
No	231 (90)	60 (83)	191 (93)	10 (0, 19)	
Unknown	2 (1)	1 (2)	1 (0)		
Previous ED visit for IPV					NS
Yes	16 (6)	7 (10)	9 (5)	5 (−3, 12)	
No	240 (94)	65 (90)	175 (95)	5 (−3, 12)	
Unknown	0 (0)	0 (0)	0 (0)		

Twenty-four subjects were excluded from analysis because they did not respond to the question about being a child witness.
IPV = intimate partner violence; NS = not significant.

alcohol. Specific questions about IPV were avoided 6%–9% of the time, whereas 3% omitted answers about gender and race. For the regression model, list-wise exclusion required the removal of a total of 51 subjects from the regression analysis.

Back-translation of Survey

When the survey was back-translated from Spanish to English; one question may be in doubt because the exact translation was "were you violated as a child," which could be interpreted as sexual assault instead of the intended meaning of "child abuse." Twenty-eight subjects took the survey in Spanish, and one admitted to abuse as a child. However, we did find significance in child abuse as a predictor of having a positive result on the OVAT, even though this question may have been erroneously answered "no."

Table 4
Logistic Regression Analysis: Adults Who Witnessed Intimate Partner Violence as Children and Significant Predictors

	Adjusted OR	p-value	95% CI
Age (yr)			
Older than 40	Reference		
Younger than 40	4.2	<0.01	1.67, 9.09
Income ($)			
>$20,000	Reference		
<$20,000	5.1	<0.01	1.55, 12.54
History of child abuse			
No	Reference		
Yes	9.1	<0.01	4.18, 19.57

DISCUSSION

Among ED patients, there is a high prevalence of family violence. Previous studies have shown this to be true in the ED for both women[3,18] and men.[18–22] This study confirmed our previous screening in the ED, which found similar numbers of those positive for IPV,[18,23] including ongoing IPV.[12,18,23]

For the present study, touch-screen computer entry provided an opportunity to ensure anonymity and to include our large Hispanic population, with the screens available in both English and Spanish. Screening in the ED for domestic abuse is difficult; as a result, other investigators have utilized touch-screen computers for ease and to ensure anonymity to encourage wide participation.[24]

Another unique aspect of this study is that our human research review committee 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 is from breach of confidentiality) or when the procedures involved do not normally require consent outside of the research context. In this situation, informed consent must

be obtained verbally, must include all elements of informed consent, and may require a written copy of a consent form or summary. In this case, the human research review committee required a copy of a consent form be given to subjects but waived the necessity for a signature.

We found that adults who witnessed IPV as children were no more likely to become victims of ongoing IPV than adult controls who did not witness IPV as children. This could be as a result of exposure to IPV early in life, enhancing a learning process to avoid partnerships that involve IPV. Many who witnessed abuse in parents or stepparents may be learning to end the cycle of violence by choosing partners in a different manner to exclude violence in their own lives as adults. Those exposed to early childhood violence may be learning behaviors to prevent future victimization and learning ways to cope with exposure to abuse, even without structured interventions. They may be better at recognizing abusive relationships, perhaps sooner than those without previous exposure to IPV.

In our study, we only questioned about ongoing IPV within the past month, not annual or lifetime experiences, and indeed these may be more significant. This may be a reason for our results; however, we believe this is a significant finding, that for present, ongoing relationships, those who witnessed IPV as children were not more likely to be ongoing victims of IPV in their present adult relationships. Asking about lifetime victimization may lead to different results. In the ED setting, ongoing IPV is a very important issue.

Reluctance to reveal information may have affected results, but use of touch-screen anonymity was intended to reduce discomfort related to questions as much as possible. In our previous study of victims presenting for assistance to the treatment program for IPV in our city, victims were less likely than perpetrators to have witnessed IPV as children.[25] We theorize that witnessing IPV may more likely lead to perpetration of IPV, thus perpetuating the cycle of violence in this manner. Further study is needed to verify this theory.

Our study was unique in screening a large Hispanic population. We did not find a difference in rates of IPV or of adults who witnessed IPV as children by race. This is an important finding, because previous studies have shown higher rates of IPV and acceptance of IPV among certain racial groups, including African American and Hispanic subjects.[26]

Adults who witnessed IPV as children were four times more likely to be young than adult controls who did not witness IPV as children. This is possibly because older adults may have learned to avoid IPV; additionally, there may be generational differences in perception of IPV. Previous research has shown younger age to be associated more strongly with IPV. Across specialties and including an ED population, those positive for IPV were more likely to be younger than 24 years.[27] In a telephone survey of more than 5,000 adults, men younger than 35 years were more likely to accept hitting an intimate partner than those who were older.[27] In our study, there was no age or gender difference.

Adults who witnessed IPV as children were five times more likely to have low incomes (<$20,000/year) when compared with adult controls who did not witness IPV as children. This is most likely cyclic, that is, those witnessing IPV may have lower income-earning potential and to have come from lower income families. Previous studies have shown a relation between IPV and income.[27–29] In a study by McCloskey et al., adjusted demographic risk characteristics included younger age, lower income, and unemployment.[28] However, health care providers were more likely to discuss IPV with lower income women than with middle or higher income women.[28] In a study of low-income African American women in the Midwest, longitudinal analysis found an association of previous IPV experience and increased odds of receiving welfare benefits in a given year. It was thus concluded that IPV leads women to welfare assistance and compromise in physical and mental health; thereby, IPV leads to interference in women's gainful employment, perpetuating a low-income status.[29] In a survey of more than 5,000 adults, Simon et al. found that acceptance of IPV was significantly higher among those with a low household income.[27]

In our study, adults who witnessed IPV as children were nine times more likely to have a history of being abused as a child than adult controls who did not witness IPV as children. This has been supported by other studies correlating witnessing of IPV and being abused as a child.[10] Other studies have shown child abuse histories are associated with becoming a victim of IPV,[10,30] as well as becoming a batterer.[6] Adults who witnessed IPV as children reported other adverse events in childhood, including physical abuse and neglect.[10] In addition, frequency of witnessing abuse led to an increased incidence of adverse effects.[10] A study by Herrenkohl et al. showed a positive developmental pathway from childhood physical abuse to early physical aggression and to perpetration of IPV for both male and female subjects at an early age.[6]

We found that 9% of children in the homes had witnessed IPV in our population. The National Institute of Justice reports that 3.3 million children witness IPV each year.[1] Identification of victims of IPV must include the screening of their children for abuse, neglect, or other types of adverse exposures, as well as recognition that adverse behaviors, such as substance abuse and depressed affect, are likely consequences of witnessing IPV.[9] This is an important step in ending the cycle of IPV.

Future studies include anonymous touch-screen correlations of witnessing IPV as a child and being a batterer of IPV, to include 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.

To the best of our knowledge, this is the first study of witnesses of IPV in the ED. The study was adequately powered and included both men and women screened with a gender-neutral screen for IPV, the OVAT.[12] The study was performed over randomized four-hour shifts to include all days of the week and all hours of the day to minimize enrollment bias. The anonymous touch-screen computer theoretically leads to more truthful responses. It also allowed direct data entry.[24] 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 white patients; however, this difference was not significant. Additionally, we used the OVAT screen, which was previously validated in an ED population.

LIMITATIONS

Many patients refused participation, with a large proportion of these being older than 50 years. Perhaps the use of a computer program may have led older patients to avoid participation. Hispanic patients were more likely to refuse to participate; however, this difference was not significant compared with white patients. Other limitations include possible recall bias, no data from batterers, and necessity to exclude acutely ill, intoxicated, or mentally ill subjects. In addition, exclusion of those acutely injured may include some who were injured in IPV incidents. We were unable to include those who were acutely injured, because the study required seating at a touch-screen computer to enter data. Subjects may have been unwilling to participate in a study regarding a touchy controversial topic, IPV and witnessing IPV.

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

There is the potential that many patients in 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 past year) intimate relationship may be warranted.

We had three local Spanish speakers formulate the surveys for us; however, another Spanish speaker from another area (California) back-translated the survey after we had performed the study. She found the term "violated" could have been misinterpreted, although our three other local translators did not.

We used a clinically significant difference of 20% based on our previous studies of IPV. For the power analysis we needed 215 subjects, based on univariate statistics. In the multivariable regression analysis, 210 subjects had all data available. Because power was based on univariate comparisons, we had adequate power to determine differences in adults who witnessed IPV as children versus adult controls who did not witness IPV as children.

"No answers" to questions were, in fact, an answer, due to the nature of the touch-screen computer for data entry into the study. Because some questions were not answered by some of the participants, the most important questions (i.e., witnessing IPV as children and OVAT scorings) were answered by the vast majority of the subjects and unlikely to affect the results.

CONCLUSIONS

There has been some evidence that witnessing IPV as a child might make someone more likely to be victimized as an adult. The results of this study did not, in fact, support that hypothesis. The cycle of adult violence in IPV does not appear to be perpetuated from witnessing IPV as a child to victimization as an adult. While our study does not demonstrate a link between adults having witnessed abuse as children and being in a current ongoing abusive relationship, we did show that adults who witnessed IPV as children were more likely to be abused as children. While we are not able to state that witnessing IPV as a child leads to being in an abusive relationship as a victim in adulthood, we must remember that adults who are currently in an abusive relationship should have their children screened for being abused and witnessing IPV in the household.

This study is dedicated to Eduardo Marvez-Valls, MD, who died in September 2006. Eduardo was a wonderful colleague, teacher, and friend who devoted his life to academic emergency medicine. He will live forever in our hearts.

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