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## Synergistic effects of child abuse and intimate partner violence on depressive symptoms in women

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### Abstract

**Objective.** Few population-based studies have examined the association of both child abuse (i.e., physical and sexual abuse) and intimate partner violence (IPV) with depressive symptoms in women. This study estimated the odds of depressive symptoms over the prior week among women exposed to child abuse or IPV alone, and both child abuse and IPV.

**Method.** Cross-sectional analysis of 7918 women respondents to the 1995 National Violence Against Women Survey (NVAWS).

**Results.** The prevalence of self-reported depressive symptoms was 50.2% in women reporting both child abuse and IPV, followed by women reporting IPV (35.7%) or child abuse alone (34.9%), and 25.2% in those with no reported abuse. Multivariable logistic regression found that women who reported both child abuse and IPV had over twice the odds of depressive symptoms than women reporting no abuse (adjusted odds ratio, OR=2.80 95% confidence interval, CI=2.35, 3.32). Smaller, though significantly elevated odds of depression were found among respondents with child abuse only (OR=1.63, 95% CI 1.42, 1.86) and IPV only (OR=1.55, 95% CI 1.30, 1.84).

**Conclusion.** The results demonstrate a super-additive risk of depressive symptoms in women exposed to both child abuse and IPV, and underscore the adverse psychological effects of these exposures.

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**Keywords:** Child abuse; Cross-sectional studies; Depressive disorder; Spouse abuse; Mental disorders; Multivariate analysis; Violence; Women's health

### Introduction

U.S. women have a high prevalence of depression, which results in considerable morbidity and social impairment. (Kessler, 2003; Kessler et al., 2003) There is evidence that child abuse (Chapman et al., 2004; Tjaden and Thoennes, 2000a; Kessler et al., 1997) and intimate partner violence (IPV) (Coker et al., 2002; Kramer et al., 2004; McCauley et al., 1997) are independent risk factors for depressive symptoms in adult women. Studies in clinical populations (McCauley et al., 1997; Roberts et al., 1998a; Thompson et al., 2003; Nicolaidis et al., 2004) suggest that these two factors may have a synergistic effect on the development of depressive symptoms: i.e., persons

exposed to both child abuse and IPV have a greater risk of developing depressive symptoms than persons who experienced either condition alone. Because the prevalence of abuse and depressive symptoms among women in clinical settings is higher than in the general population, it is unknown whether this association occurs in community-based populations. This study examined the combined associations of child abuse and IPV on depressive symptoms in a national, community-based sample of women, the National Violence Against Women Survey (NVAWS).

Child abuse comprises physical abuse, sexual abuse, neglect, and emotional abuse of a person under the age of majority. (Merrick and Browne, 1999; Behl et al., 2003) The measured prevalence of child abuse varies depending on definition and methodology. According to the National Longitudinal Study of Adolescent Health (U.S.), 28% of teens reported physical assault

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during childhood and 4.5% reported contact sexual abuse. (Hussey et al., 2006) Other population-based studies found that 13.5% of women reported child sexual abuse (defined as rape and/or molestation) (Molnar et al., 2001) and 30% had experienced at least one type of childhood abuse. (Scher et al., 2004) Child abuse and IPV often co-occur in families. (Dube et al., 2002; Lee et al., 2004; McGuigan and Pratt, 2001) Childhood exposure to physical violence is associated with a 3–6-fold risk of victimization by IPV (Bensley et al., 2003) and an increased risk for lifetime major depressive disorder. (Widom et al., 2007) Childhood sexual abuse (CSA) is likewise associated with increased risk of subsequent physical and sexual victimization and poor mental health. (Roberts et al., 2004) including depressive symptoms. (Noll, 2005; Noll et al., 2003) Compared with extrafamilial CSA, intrafamilial CSA is thought to be associated with greater trauma, longer duration, and poorer later mental health. (Mian et al., 1994; Bulik et al., 2001).

Intimate Partner Violence (IPV), defined as physical, sexual, psychological and/or verbal abuse in the context of marriage or other intimate relationships, is a risk factor for current and future mental health problems. (Hathaway et al., 2000; Scholle et al., 1998; Tjaden and Thoennes, 2000b; Coker et al., 2002; Danielson et al., 1998; Flitcraft, 1995; McCauley et al., 1997) The lifetime prevalence of physical IPV against U.S. women by male partners ranges from 5%–22% (Schafer et al., 1998; Tjaden and Thoennes, 2000b; Tjaden and Thoennes, 2000a). Increasing severity of IPV is associated with greater psychological distress among women surveyed in clinical settings in the U.S. (McCauley et al., 1998; McCauley et al., 1997; Kovac et al., 2003) and worldwide (Jaffe et al., 1986; Roberts et al., 1998a; Roberts et al., 1998b; Maziak et al., 2002).

This study tested the hypothesis that women who had experienced both child abuse (physical and/or sexual) by a family member and IPV (physical and/or sexual) were at higher risk for depressive symptoms than women who had never experienced either condition, or women who had experienced either child abuse or IPV alone.

## Methods

### Sample

The National Violence Against Women Survey (NVAWS) is a nationally representative, cross-sectional survey of the 1995 U.S. adult population (men and women) conducted between November 1995 and May 1996 by random-digit dialing of households. (Tjaden and Thoennes, 2000b; Tjaden and Thoennes, 2000a) The participation rate was 72.1%. The sample for our analyses included 7918 of the 8005 women respondents to the NVAWS who had complete data on the child abuse, adult IPV, and depressive symptoms variables. This analysis of de-identified data was approved by the Boston Medical Center Institutional Review Board.

### Measures

The NVAWS measures the prevalence of sexual assault, physical assault, threats, emotional abuse, and stalking victimization, and includes questions regarding the perpetrators of any reported violence. Additional questions address demographic characteristics and health status.

The Child Abuse and IPV variables were constructed from items on physical abuse from the Conflict Tactics Scale, (Straus, 1979) and items on sexual abuse from the Forced Sex questions from the National Women's study (Kilpatrick et al., 1992). The Conflict Tactics Scale (CTS) includes a 12-item physical

assault sub-scale which was adapted for the NVAWS (Straus, 1979). The NVAWS uses the scale twice, first, to assess experience of physical abuse as a child (by a parent, step-parent, or guardian) and second, as an adult (by an intimate partner). Responses were scored dichotomously (yes/no).

### Physical violence

Physical violence in childhood (i.e., this was respondent's definition of "childhood"; survey instructions did specify an age range) was defined as the respondent's report of two or more of the twelve abusive behaviors, with the perpetrator being a parent, step-parent or guardian (Coker et al., 2002). Similarly, physical IPV in adulthood (respondent's definition; no age specified in survey instructions) was defined as ever experiencing two or more of the abusive behaviors by a spouse, former spouse, current or former boyfriend or girlfriend.

### Forced sex

Sexual abuse was based on four items: forced vaginal sex, forced oral sex, forced anal sex, or forced sex with objects. In order to maintain consistency with published studies on IPV and health, this definition excluded attempted rape (Coker et al., 2002; Coker et al., 2000; Resnick et al., 1997). We defined childhood sexual abuse as any reported forced sex by a relative when the respondent was aged 18 or younger. We chose to focus on sexual abuse by a relative because our objective was to examine the impact of family violence on depressive symptoms. The NVAWS did not measure other behaviors commonly included in the definition of sexual abuse, like fondling or genital–genital contact other than intercourse (Sapp and Vandeven, 2005). Sexual abuse by an intimate partner in adulthood was the report of ever experiencing any of these acts of forced sex by a spouse, former spouse, current or former boyfriend or girlfriend.

### Child abuse and IPV combined

A 4-category variable was created by combining the variables for physical abuse in childhood (by parent/guardian), physical abuse by an intimate partner in adulthood, sexual abuse in childhood (by a relative), and sexual abuse by an intimate partner in adulthood. The categories were as follows:

1. *No measured abuse*: No abuse in childhood (by relative) or adulthood (by partner) reported by respondent.
2. *Childhood abuse*: Physically or sexually abused in childhood (by relative), but no IPV.
3. *IPV*: Physically or sexually abused in adulthood (by current or former partner), but no abuse in childhood.
4. *Childhood abuse and IPV*: Physically or sexually abused in both childhood and adulthood.

### Depressive symptoms

Depressive symptoms over the previous week were measured with eight items from the first edition of the Beck Depression Inventory, short form, which was validated against diagnostic interviews (Beck and Steer, 1984). Each item was scored from least symptomatic to most symptomatic on a 4-point Likert scale. These eight items constitute neither the entire Beck short form (13 items)

1. How often in the past week did you feel full of pep?
2. How often in the past week have you been very nervous?
3. How often in the past week have you felt so down in the dumps that nothing could cheer you up?
4. How often in the past week did you have a lot of energy?
5. How often in the past week did you feel downhearted and blue?
6. How often in the past week did you feel worn out?
7. How often in the past week have you been a happy person?
8. How often in the past week did you feel tired?

Fig. 1. National Violence Against Women Survey: Depressive Symptoms Questions.

nor the full scale (21 items) (Fig. 1) (Beck and Steer, 1984; Shaver and Brennan, 1991; Beck and Beck, 1972).

A dichotomous variable for moderate to severe depressive symptoms was created by summing the items and scaling the total score to its corresponding score on the Beck short-form and full-scale versions (Beck and Steer, 1984; Shaver and Brennan, 1991; Beck and Beck, 1972). Cronbach's alpha for the scale was 0.78 in this sample. Respondents who scored 10 or higher were classified as "moderate–severe depressive symptoms"; those scoring 0–9 were categorized as "none-to-low depressive symptoms". This cut-point represented the upper quartile of depressive symptom scores.

#### Demographic characteristics

Age was analyzed as a continuous variable, as a categorical variable by decade, and as a dichotomous variable (aged 18–45 years and aged 46 years and over). Employment status was: currently employed (full-time or part-time work, or military service); or not employed (unemployed, students, retired, or homemakers).

Respondents were classified as married (i.e., including being married or in a common-law relationship) or not married (i.e., divorced, separated, widowed, single and never married).

Educational attainment was divided into "high school graduate or less", versus "some college or more". Respondents were categorized as non-Hispanic white, or as non-white, which included respondents who reported they were Hispanic.

Household income was categorized as follows: >\$80,000, \$50–79,999, \$35–49,999, \$20–34,999, and <\$20,000. Between 21%–28% of respondents refused to answer or did not know their household income; they were included as a separate category. Respondents were categorized as having private insurance (i.e., private or group insurance), public/government insurance (i.e., Medicare, Medicaid or Medical, Other public source, workers compensation, disability), or being uninsured (i.e., uninsured, or using out of pocket or cash, free or low income clinic). In the logistic regression equations, we collapsed this variable into private insurance versus public insurance/uninsured. There was no difference in findings using the three versus two category variable.

#### Statistical analyses

Analyses were conducted using SAS, version 8. Consistent with published studies of the NVAWS, the data were not weighted (Tjaden and Thoennes, 2000b; Tjaden and Thoennes, 2000a). Descriptive statistics were obtained by

calculating the proportion of respondents who fell in each category of the child abuse/IPV variable, depressive symptoms, and each co-variable. Univariate associations with the child abuse/IPV and with depressive symptoms were calculated by odds ratios and 95% confidence intervals (CI). We performed multivariable logistic regression analyses of the associations between child abuse/IPV exposure and depressive symptoms. Our final model adjusted for the confounding effects of age, marital status, employment, educational status, and insurance status, which were each associated with both depressive symptoms and abuse exposure. The "no measured abuse" was the reference group.

We assessed for interaction between child abuse and IPV on both the multiplicative and additive scale. Contemporary epidemiologists posit that failing to find statistical interaction on the multiplicative scale does not imply the absence of true biologic interaction (i.e., the combined effects of the two exposures are greater than what may be attributed to the sum of their individual effects) between the risk factors (Ahlbom and Alfredsson, 2005; Andersson et al., 2005; Rothman and Greenland, 1998).

To assess interaction on a multiplicative scale, we evaluated whether the interaction term, child abuse\*IPV, was statistically significant ( $p<0.05$ ) in a logistic regression model that also included independent terms for child abuse and for IPV, and co-variables. To assess interaction on the additive scale, we calculated the relative excess risk due to interaction (RERI) for child abuse and IPV (Rothman and Greenland, 1998; Hosmer and Lemeshow, 1992; Andersson et al., 2005). That is, the RERI assessed whether the odds of depression if a woman had experienced both child abuse and IPV was greater than would have been expected based on the addition of the odds of depression if a woman had experienced either child abuse or IPV only.  $RERI>0$  shows positive interaction (synergy) (Rothman and Greenland, 1998; Hosmer and Lemeshow, 1992).

## Results

### Sample description

Respondents were mostly non-Hispanic white (78%), married (63%), college-educated (55%), and employed (59%). Their mean age was 44.2 years. While 68% had private health

Table 1  
Abuse exposure by sample characteristics, among 7918 women in the 1995 National Violence Against Women (NVAW) Survey

Demographic	N in strata	% of respondents in category	Both child & adult abuse	Adulthood abuse	Childhood abuse	No reported abuse	Odds of any abuse
	N		%	%	%	%	OR, (95%CI)
Overall Sample	7918		8.0	8.7	16.0	67.3	–
Race/ethnicity							
White, non-Hispanic	6158	77.77	7.7	8.8	15.8	67.8	1.00
Non-white	1760	22.23	9.4	8.4	17.0	65.3	1.12 (1.00, 1.25)
Age							
46 and over	3216	41.34	7.0	7.7	12.8	72.5	1.00
18–45	4563	58.66	8.9	9.4	18.4	63.3	1.53 (1.38, 1.68)
Educational level							
Some college or more	4312	54.69	8.0	7.9	18.0	66.1	1.00
High School grad or less	3573	45.31	8.1	9.7	13.7	68.5	0.89 (0.81, 0.98)
Marital status							
Married	4949	62.81	6.5	7.0	16.6	70.0	1.00
Not married	2930	37.19	10.8	11.6	15.2	62.5	1.40 (1.27, 1.54)
Employment							
Employed	4662	58.99	7.2	7.0	17.5	64.0	1.00
Not employed	3241	41.01	8.6	9.8	14.0	71.8	0.70 (0.63, 0.77)
Health Insurance							
Private	5346	67.52	7.1	8.4	17.5	67.2	1.00
Public/Government	1413	17.85	8.0	7.6	12.7	71.7	0.81 (0.71, 0.92)
No insurance	1035	13.07	13.5	11.5	14.4	60.6	1.33 (1.16, 1.53)
Don't know/refused	124	1.57	4.0	8.9	10.5	76.6	0.62 (0.41, 0.95)



insurance, 13% were uninsured. We excluded 87 respondents who lacked data on child abuse/IPV and/or depressive symptoms. Compared with the 7918 NVAWS participants with complete data, these women were significantly more likely to have lower incomes and no medical insurance. They did not differ on age, race, educational attainment, marital status, employment status, or depressive symptoms.

### Abuse exposure

As shown in Table 1, 8.0% of respondents reported both child abuse and IPV, 16.0% reported child abuse only, 8.7% reported IPV alone, and 67.3% reported neither exposure. Respondents were more likely to report any abuse if they were aged 18–45 or unmarried. Unemployment and lower educational attainment were each associated with lower odds of any reported abuse. Household income, health insurance status, and race/ethnicity were not significantly associated with abuse.

### Depressive symptoms

Almost one-third of respondents had moderate–severe depressive symptoms (Table 2). The unadjusted prevalence of depressive symptoms was highest in women who reported both

Table 2  
Association of depressive symptoms with demographic characteristics, among 7918 women in the National Violence Against Women (NVAW) Survey

Odds of depressive symptoms by demographic category			
	% depressive symptoms	Odds ratio	95% confidence interval
Overall Sample	29.8	–	–
Race/ethnicity			
White, non-Hispanic	28.4	1.00	
Non-white	34.6	1.33	1.19, 1.48
Age			
46 and over	27.8	1.00	
18–45	31.3	1.19	1.07, 1.31
Educational level			
Some college or more	26.0	1.00	
High School grad or less	34.4	1.49	1.35, 1.64
Marital status			
Married	27.3	1.00	
Not married	34.1	1.37	1.25, 1.52
Employment			
Employed	27.9	1.00	
Not employed	32.6	1.25	1.14, 1.38
Health insurance			
Private	26.7	1.00	
Public/government	37.1	1.62	1.43, 1.83
No insurance	35.4	1.51	1.31, 1.73
Don't know/refused	32.6	1.33	0.91, 1.92
Household Income			
>\$80k	18.1	1.00	
\$50–80k	22.6	1.32	1.01, 1.72
\$35–49,999	30.6	1.99	1.55, 2.57
\$20–34,900	31.0	2.03	1.57, 2.62
<\$20k	39.9	3.00	2.33, 3.86
Don't know/refused	27.4	1.71	1.34, 2.17

Table 3

Crude and adjusted odds of depressive symptoms among women exposed to child abuse and Intimate Partner Violence (IPV) combined, childhood abuse alone, and IPV alone among 7918 women in the 1995 National Violence Against Women (NVAW) Survey

Variables	Depressive symptoms		
	Prevalence (%)	Unadjusted OR <sup>a</sup> (95% CI)	Adjusted OR <sup>a*</sup> (95% CI)
Child abuse/IPV			
Neither child abuse nor IPV	25.2	1.00	1.00
Child abuse alone vs. no abuse	34.9	1.58 (1.39, 1.80)	1.63 (1.42, 1.86)
IPV alone vs. no abuse	35.7	1.64 (1.39, 1.94)	1.55 (1.30, 1.84)
Child abuse and IPV vs. no abuse	50.2	2.98 (2.52, 3.52)	2.80 (2.35, 3.32)
Age (continuous)			0.993 (0.990, 0.996)
Marital status			0.84 (0.76, 0.94) <sup>a</sup>
Employment status			0.85 (0.76, 0.96) <sup>a</sup>
Insurance status			1.35 (1.20, 1.52)
Educational attainment			0.71 (0.64, 0.78)

\*Models adjusted for the confounding effects of age, marital, employment, insurance, and educational status.

<sup>a</sup> All Odds Ratios significant at  $p < 0.001$ , except for marital status and employment, where  $p < 0.01$ .

child abuse and IPV (50.2%), lower in those who reported only child abuse (34.9%) or IPV (35.7%), and lowest in women with no reported abuse (25.2%). Younger age, unmarried status, unemployment, non-white race, lower household income, and non-privately insured were each associated with higher odds of depressive symptoms in univariate models.

### Multivariable logistic regression analyses on depressive symptoms

When adjusted for confounders, the odds of depressive symptoms were over twice as high among women who reported both child abuse and IPV compared to those with no abuse (adjusted OR = 2.80, 95% CI: 2.35, 3.32) (Table 3). By contrast, the odds of depressive symptoms were 63% higher among

Table 4

Stratified analysis of Intimate Partner Violence (IPV) exposure with and without child abuse exposure on depressive symptoms, with Odds Ratios (OR) and 95% Confidence Intervals (95% CI) (Logistic regression adjusted for age, marital, employment, insurance, and educational status.)

No childhood abuse $N = 5756$			Childhood abuse $N = 1854$		
IPV status	High depressive symptoms		IPV status	High depressive symptoms	
	%	OR (95% CI) <sup>a</sup>		%	OR (95% CI) <sup>a</sup>
No	25.3	1.00	No	34.9	1.00
Yes	35.7	1.53 (1.28, 1.82)	Yes	50.2	1.77 (1.45, 2.17)

Adjusted analysis  $p = 0.43$  of interaction term (IPV \* Childhood abuse).

<sup>a</sup> All Odds Ratio significant at  $p < 0.0001$ .

women who sustained child abuse and 55% higher among women who sustained IPV, compared to respondents who reported no child abuse or IPV. This pattern was also observed in analyses of the association between IPV and depressive symptoms, stratified by the past experience of child abuse (Table 4). Although IPV was associated with increased odds of depressive symptoms among women who reported child abuse as well as those who did not, this association was stronger in women with a history of child abuse.

#### *Results of analyses of interaction between child abuse and IPV*

The multiplicative interaction between IPV and child abuse was not statistically significant in crude ( $p=0.29$ ) or adjusted ( $p=0.43$ ) analyses. However, regarding additive interaction, our observed odds ratio of 2.80 in this doubly-exposed group was substantially higher than the expected OR for these two exposures ( $OR=2.18$ ), suggesting a synergistic effect of both exposures on the risk of depressive symptoms. The RERI was 0.62 (95% CI: 0.08, 1.17). This result indicates statistically significant super-additive interaction, suggesting that child abuse and IPV exposures combined conferred higher odds of depressive symptoms than the sum of these two exposures together, adjusting for confounders.

#### **Discussion**

In a large, nationally-representative sample, women exposed to both child abuse and IPV had over twice the odds of depressive symptoms, with evidence of synergy, than women with no measured abuse. Additionally, respondents who reported either child abuse or IPV had 63% and 55% increased odds of depressive symptoms, respectively. These results are consistent with previous studies of adverse outcomes of child abuse or adult IPV (Coker et al., 2002; Coker et al., 2000; Dube et al., 2001; Roberts et al., 1998a; Thompson et al., 2003; Tjaden and Thoennes, 2000b; Bensley et al., 2003; McCauley et al., 1998; McCauley et al., 1997; Blinn-Pike et al., 2002; Kendall-Tackett, 2000; MacMillan, 2000; Dube et al., 2002; Felitti et al., 1998). To our knowledge, this is the first nationally representative study to demonstrate the super-additive interaction of both childhood exposure to abuse and adulthood exposure to IPV on depressive symptoms in women.

Although this cross-sectional study does not demonstrate causality, the association suggests a more intertwined relationship among child abuse, IPV and depressive symptoms than previously noted. Child physical and sexual abuse are associated with poorer long term mental health (Johnsen and Harlow, 1996; Jeffrey and Jeffrey, 1991; Silverman et al., 1996). For women, childhood physical and sexual abuse is also associated with an increased risk of experiencing IPV as an adult (Desai et al., 2002). Among high school students, a lifetime experience of forced sexual intercourse is associated with physical dating violence over the previous year (Basile et al., 2006).

The initial stressors resulting from child abuse may lead to poorer self-esteem and self-protective behaviors and high stress, setting the stage for greater vulnerability to abuse in adulthood.

One study found an increased risk of IPV among adolescents with depression (Lehrer et al., 2006). Subsequent experience of abuse in adulthood adds to the stress sustained from child abuse and adolescent distress, which may result in the synergistic effect we observed on depressive symptoms.

This study had several limitations. The NVAWS is cross-sectional, and information on child abuse is retrospective. Depressed respondents may have been more likely to recall child abuse or to report IPV than non-depressed respondents (Kessler, 1997). However, the strength of these associations and their consistency with prospective studies suggest that this explanation was not entirely responsible for these results. In fact, under-reporting by respondents would tend to underestimate the association between child abuse and IPV and depressive symptoms.

Secondly, although the Conflict Tactics Scales is well-validated, the response format in the NVAWS precluded measuring the frequency or intensity of abuse. Also, defining sexual abuse in childhood as only those acts committed by a relative omits those who were sexually assaulted by a non-relative. Although our definitions of abuse ensured that family members/intimate partners were the perpetrators across all categories of child and adult abuse, those abused in childhood by a non-family member also may be at higher risk of depression. Separate analysis confirmed slightly higher odds of depression when we included respondents who experienced sexual abuse by non-family perpetrators in the sexually abused in childhood category.

The NVAWS does not include milder forms of sexual coercion, e.g., fondling. These persons may be at increased risk of depressive symptoms; misclassifying them would tend to bias our results towards the null. The NVAWS included a question on attempted rape, but to maintain consistency with prior investigations, this question was not included in our definition of sexual abuse (Coker et al., 2002; Coker et al., 2000; Resnick et al., 1997). This decision may have resulted in underestimating the association between abuse and depressive symptoms. However, when we reclassified these respondents in the appropriate category of abuse, our results were identical to our analyses that did not account for attempted rape (i.e., adjusted ORs=1.62 (95% CI 1.41, 1.85) for child abuse alone; 1.54, (95% CI 1.29, 1.83) for IPV alone, and 2.80 (95% CI 2.36, 3.32) for both exposures).

This study's strengths include the use of a large, population-based community sample, with a good response rate and high rates of completeness on individual survey items. Reliable and valid measures were used for physical and sexual abuse, and depressive symptoms.

#### **Conclusions**

In summary, child abuse and adult IPV have been largely studied separately, resulting in separate research and policy agendas. The results of this study suggest that this approach may overlook women with a history of multiple sources of abuse, and may limit our understanding of how these exposures are related to mental health problems. Our findings suggest that clinicians should ask all women presenting with depressive symptoms if they have experienced child abuse or adult IPV.

Furthermore, since patients may not realize, or may be reluctant to acknowledge that they were abused, clinicians should maintain an index of suspicion and sensitively re-inquire about abuse at subsequent visits.

Clinicians who discern abuse histories in their patients should work closely with mental health clinicians and women's advocacy personnel to facilitate appropriate treatment, support, and follow-up of these women. The synergistic effect of both child abuse and IPV observed in this study suggests that treatment is even more paramount for these women.

Future research should explore whether detection of abuse histories influences referral to treatment and prevention of severe outcomes, such as suicide. Other research should investigate risk and protective factors in the pathway between child abuse, adult IPV, and depressive symptoms, including family dynamics, coping styles, sexual and high-risk behaviors, and social support, as well as the efficacy of counseling, advocacy, and therapy for women who have sustained either childhood abuse, IPV, or both. Such efforts would improve programs to prevent, identify, and treat child abuse and IPV victims to minimize adverse mental health outcomes.

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