

## Severity of Child Sexual Abuse, Post-Traumatic Stress and Risky Sexual Behaviors Among HIV-Positive Women

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Child sexual abuse (CSA) has been shown to enhance risk for HIV infection and other adverse outcomes. However, most studies examine the effects of a single incident of CSA rather than the full burden of abuse over the life span in predicting these adverse outcomes. A multidimensional approach was used in this study to examine the severity of abuse as a predictor of post-traumatic stress, depression, sexual symptoms, and risky sexual behaviors in a multiethnic sample of 147 HIV-positive women. Multivariate models indicated that experiencing both intrafamilial and extrafamilial CSA, adult sexual abuse (ASA) and Latina ethnicity predicted PTSD symptoms. ASA also predicted sexual trauma symptoms. Also, CSA and adult re-victimization contributed independently to risk for PTSD and sexual trauma symptoms, but not for risky sexual behaviors. The results support the need for interventions for HIV-positive women that address the full burden of abuse experienced and its sequelae.

**KEY WORDS:** HIV/AIDS; CSA severity; risky sexual behavior; trauma symptoms.

### INTRODUCTION

The most effective strategies for reducing risks for sexually transmitted diseases require an understanding and appreciation of the host of factors implicated in the etiology of sexual risk behavior. For the past two decades, risk behaviors that increase chances of HIV transmission have been the focus of HIV prevention efforts, ranging from needle exchange programs for injection drug users; decreasing sexual risks among men and women, including those

with multiple partners and/or who are HIV infected; and reducing the frequency of unprotected anal, vaginal, and oral sex (Wingood and DiClemente, 2000; Ehrhardt and Exner, 2000). However, there is growing evidence that a history of childhood sexual abuse (CSA) is associated with a greater likelihood of developing a complex pattern of psychological dysfunction (i.e. higher rates of PTSD & depression) and self-destructive behaviors, including patterns of sexual risk behaviors and substance abuse (Bensley *et al.*, 2000; Wyatt *et al.*, 2002a). A history of CSA has also been shown to contribute to the risk for subsequent re-victimization (Wyatt *et al.*, 1992; West *et al.*, 2000). All of these factors, in turn, appear to confer greater STI and HIV risk (Johnsen and Harlow, 1996; Wyatt *et al.*, 2002b). However, most studies to date document only whether or not CSA occurred (e.g., Hill *et al.*, 2001; Mason *et al.*, 1998), or define severity exclusively in terms of the type of incident experienced (e.g. Elze *et al.*, 2001), and, in most cases, the HIV serostatus of the women studied is unknown.

One important question that has not been adequately addressed by the field to date is whether the

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severity of the psychological symptoms and pattern of self-destructive behaviors associated with a history of CSA are related to the severity of the CSA experienced. Understanding the role that severity of abuse experiences plays has important implications for the effectiveness of HIV risk- and harm- reduction interventions because individuals who are at greatest risk for more adverse mental health outcomes also may be less able to benefit from behavioral risk reduction interventions that don't address their mental health needs. Therefore, the purpose of the present study was to examine the associations between four dimensions of CSA experiences as indicators of severity of CSA, and four trauma-related outcomes: risky sexual behavior, severity of PTSD symptoms, sexual trauma symptoms, and depression in women living with HIV.

CSA experiences, defined as unwanted or coerced sexual body contact prior to the age of 18 (Finkelhor, 1984), can vary along several dimensions, including the type of physical contact, relationship to the perpetrator, the number of incidents of abuse by different perpetrators, and the duration of the abuse experienced. Current research on the consequences of CSA varies considerably with regard to the types of abuse included in definitions of CSA, whether one or more dimensions of CSA experiences are measured, and how severity of abuse is defined (Bensley *et al.*, 2000; Bulik *et al.*, 2001; Hill *et al.*, 2001; West *et al.*, 2000). Most victims of CSA experience more than one incident, and the evidence to date suggests that the effects of multiple experiences of abuse increase HIV-related risks and clinical sequelae (Wyatt *et al.*, 2002b).

There is also growing evidence that women with CSA histories are more likely to engage in behaviors that place them at enhanced risk for STIs and HIV, including lower condom self-efficacy, less frequent and inconsistent use of condoms with partners, and to have higher rates of sexually transmitted infections including HIV (Elze *et al.*, 2001; Lodico and DiClemente, 1994; Bensley *et al.*, 2000), and to engage in substance abuse (Bensley *et al.*, 2000; Johnsen and Harlow, 1996).

Research also indicates that the trauma associated with child sexual abuse increases risk for a number of psychiatric disorders, including depression and post-traumatic symptoms (Boudewyn and Liem, 1995; Bulik *et al.*, 2001; McCauley *et al.*, 1997; Putnam, 2003), and this effect is maintained even when controlling for other adverse childhood variables (McCauley *et al.*, 1997).

However, the ways in which the full burden of CSA experiences and subsequent adult sexual abuse (ASA) experiences contribute to HIV risk practices have yet to be comprehensively examined. For example, is it unclear whether more severe incidents of CSA, such as those that occur within the family, that occur over long periods of time, or that involve physical penetration are associated with a pattern of greater sexual risk-taking as adults. It is also unclear whether greater severity of abuse is associated with greater psychological distress and impairment, and whether this relationship is more pronounced among women who are living with other severe medical conditions, such as HIV/AIDS.

The study of the effects of CSA on high-risk behaviors and psychosocial dysfunction is also complicated by the fact that many CSA victims are also sexually re-victimized as adults (ASA) (West *et al.*, 2000). In fact, previous sexual assault is associated with greater likelihood of current and future sexual victimization (Wyatt *et al.*, 2002a), and sexual re-victimization is also associated with greater sexual risk-taking (Wyatt *et al.*, 2002b), although the direction of causality in the latter relationship remains unclear. Recent studies have also found higher rates of ASA among HIV-positive and low-SES women (Galaiif *et al.*, 1999; Wyatt *et al.*, 2002b).

This evidence suggests that CSA experiences exert both direct and indirect effects on HIV-related risk, but does not indicate whether severity of risk and the associated psychological sequelae are linked to the severity of the abuse experienced. Few theoretical formulations have been advanced to explain the relationship of severity of abuse with type and magnitude of symptoms. However, Freyd (1996) offered a theory of abuse that suggests that the four dimensions of abuse we are investigating have implications for the types of behaviors and psychological distress that may ensue following the trauma. Freyd (1996) proposed a two-dimensional model of trauma, with each dimension conferring risk for specific trauma reactions. The first dimension is "social-betrayal," which encapsulates abuse in which a form of betrayal is central, and includes sexual abuse and emotional abuse by a perpetrator whom the victim trusts and to whom she/he is attached. The second dimension is "terror/fear inducing," examples of which include natural disasters and accidents. A particular incident may be high on both (sadistic abuse), high on one or the other, or low on both (not generally traumatic). According to this theory, high social-betrayal trauma is more likely to result in symptoms

of dissociation, numbing, and amnesia as a means by which the victim attempts to preserve the attachment in light of the betrayal. In contrast, high terror/fear inducing trauma is likely to lead to hyperarousal and anxiety. Thus, in the context of the present study, the relationship of the perpetrator (i.e. intrafamilial abuse) is likely to predict PTSD symptoms.

Freyd's theory also suggests that abuse experiences may also lead to damaged cognitive mechanisms (e.g., damaged self-esteem and reality-detecting mechanisms) that contribute to risky sexual behaviors, including not assessing risk, having multiple sexual partners, and engaging in high-risk sexual practices (Zubriggen and Freyd, 2004). Thus, type of abuse (e.g. more severe, including rape) would predict greater sex risk behavior such as inconsistent or no condom use and abstinence compared to less severe abuse (e.g. fondling and frottage).

In this study we examine the association between four dimensions of CSA experiences (i.e. type of abuse, relationship to the perpetrator, number of incidents involving different perpetrators, and duration of abuse) as indicators of severity of CSA, and four trauma-related outcomes (i.e. risky sexual behavior, and 3 indices of psychological distress-PTSD, sexual trauma symptoms, and depression) in a multi-ethnic sample of HIV-positive women with histories of CSA. Multivariate models were used to examine the independent contributions of each dimension of abuse to the four outcomes.

## METHODS

### Sample

A sample of 162 African American, Latina and European American women who met eligibility criteria were recruited to participate in the UCLA-Drew Women's Health Project (WHP), a four-year behavioral risk reduction intervention study that was designed to enhance sexual decision-making and psychological adjustment in HIV-positive women with histories of CSA. Of those who were eligible, 147 completed baseline assessments, including 79 African American, 9 European American, and 59 Latina women. The Latinas were primarily from Mexico and Central America, and 59 percent ( $N = 35$ ) were monolingual Spanish and completed their interviews in Spanish with a bilingual-bicultural interviewer.

The women were recruited from the greater Los Angeles County using a multi-level recruitment strategy that targeted community-based clinics, county hospitals, ethnic- and AIDS-service organizations, and drug rehabilitation centers that served HIV-positive women. In addition, print and radio advertisements were used to supplement the agency-based recruitment in order to obtain a more representative sample of women. All participants were interviewed face-to-face in private by a trained female interviewer at the location of their choice and in their preferred language. Interviewers were trained with inter-rater reliability confirmed at kappa = 0.85 post-training, and repeated every two months to address issues of reliability and drift.

HIV-serostatus was confirmed by enzyme linked immunoabsorbent assay (ELISA) and confirmed by Western Blot, and a serology battery was run to assess immune status as indexed by CD4 and CD8 count and CD4/CD8 ratio.

Following the baseline interviews, women were randomized to an 11-week intervention or to a standard care control condition (See Chin *et al.*, 2004 for a detailed description of the study procedures). For purposes of this report, only data on baseline predictors and outcomes were analyzed and reported.

### Measures

Information on demographic characteristics were obtained, including age, ethnicity, education (number of years of school attended), and employment (working full-time or part-time, or unemployed).

Childhood sexual abuse was assessed with nine screening questions from the Revised Wyatt Sex History Questionnaire (WSHR-R) (Wyatt *et al.*, 1993) that asked about sexual experiences against their will before the age of 18 with an adult or someone at least 5 years older, as well as the specific circumstances of each incident of abuse reported. These included fondling, frottage, attempted or completed intercourse, oral copulation either to the victim or perpetrator, and various types of oral, vaginal, or anal penetration of the victim or perpetrator.

Severity of CSA was assessed along four dimensions: type of abuse, relationship to the perpetrator, CSA re-victimization with different perpetrators, and duration of the abuse. Type of abuse was assessed and coded into types that differed by level of severity. First, each incident of CSA was

categorized as either less severe (e.g. fondling and frottage) or as more severe (e.g. rape, attempted rape, oral sex, and digital or penile vaginal or anal penetration). Once categorized, four levels of increasing severity were created: a score of 1 was given if the participant experienced one or more incidents of less severe abuse; a score of 2 was given if she experienced only one incident of severe abuse; a score of 3 was given if she experienced at least one or more incidents of less severe abuse and one severe abuse; and, a score of 4 was given if she reported two or more incidents of severe abuse. Relationship to the perpetrator was categorized into 3 categories: extrafamilial = 1, intrafamilial = 2 or both = 3. For CSA re-victimization with different perpetrators, the number of CSA incidents by different perpetrators was calculated, and responses were coded as one perpetrator = 1, 2 perpetrators = 2, and 3 or more perpetrators = 3. Duration of abuse was assessed in terms of the amount of time across all incidents of CSA. The total duration of all abuse incidents was summed and given a score of one time = 1, less than one year = 2, between 1 and 5 years = 3, and longer than 5 years = 4.

Adult sexual abuse was assessed with two items that asked: "Since the age of 18, have you ever been raped, or has someone forced their penis or an object in your vagina or bottom?" And "Since the age of 18, has anyone ever tried to rape you?" Responses were coded as yes = 1 or no = 0.

Outcome variables included two measures of sexual risk-taking and 3 measures of psychological distress.

Sexual risk-taking was assessed with two variables: (1) percent condom use with primary partner and (2) a composite variable called "being sexually safer." Percent condom use with primary partner was calculated by dividing the number of times that a condom was used in sexual encounters by the total number of sexual encounters with their primary partner in the last three months. Responses yielded percentage scores that ranged from 0 to 1, with 0 = never used condoms to 1 = used condoms 100% of the time. A second variable was created called "being sexually safer" with scores ranging from 0 to 1. This variable was created to reflect the range of behavior of women, from being abstinent to those who had sex with any partner in the last three months. Similar to the first variable, a percent condom use was obtained by dividing the number of times a condom was used by the total number of times participants reported having sex in the last three months. Women

who reported being abstinent in the past 3 months were given a score of 1 to reflect the protection afforded by abstinence.

Psychological distress was assessed with three measures: PTSD was assessed using the PTSD diagnostic module of the University of Michigan version of the Composite International Diagnostic Interview (UM-CIDI; Kessler *et al.*, 1994). Study participants were asked if they ever experienced any of the 16 criterial symptoms or experiences following the child or adult sexual events. Responses were coded as Yes (1) or No (0) ( $\alpha = .90$ ).

Trauma-related sexual symptoms were assessed with the Trauma Symptom Inventory (TSI; Briere *et al.*, 1995). The TSI measures the possible outcomes of child and adult traumas using a symptom approach. For this study, only the 15-item Sexual Concerns scales was used. Study participants were asked to rate various sexual concerns they experienced in the last three months (e.g. "Getting into trouble because of sex," "Using sex to get love or attention," "Having sex or being sexual to keep from feeling lonely or sad," "Sexual problems") on a four-point scale ranging from never (0) to often (3). A reliable sum score ( $\alpha = .91$ ) was calculated and used in the analyses.

Finally, depression was assessed with the 20-item Center for Epidemiological Studies-Depression Scale (CES-D; Radloff, 1977), which asks participants to rate the occurrence of various symptoms on a four-point scale ranging from rarely (0) to most of the time (3). The CES-D yields a very reliable overall depression score ( $\alpha = .93$ ).

### *Statistical Analyses*

Univariate distributions of participant characteristics, severity of sexual abuse and participant outcomes were calculated. Bivariate analyses of the relationships between severity of sexual abuse and outcomes, including sexual risks and psychological outcomes were evaluated with chi-square analyses, *t*-tests and analyses of variance to test for group differences on the variables of interest. Finally, multivariate regressions were used to model the outcomes.

## **RESULTS**

The sample had a mean age of 40 for African Americans, 39 for Latinas, and 39 for European

Americans, respectively. Forty-three percent ( $N = 63$ ) of the women reported less than a high school education and 57% ( $N = 83$ ) had a high school education or greater. The majority of the sample (95%,  $n = 140$ ) was unemployed, and only 5% ( $N = 8$ ) were working full-time or part-time. Thirty-nine percent ( $N = 57$ ) of the women were married or living with a partner, 29% ( $N = 43$ ) were dating and 32% ( $N = 48$ ) were living alone and not dating. The women reported having an average of 2.7 children, and lived with an average of 2.1 people. On average, the women had been living with HIV for 7 years, and 9% ( $N = 13$ ) met criteria for AIDS (CDC, 1992).

### Severity of Child Sexual Abuse

There were substantial variations in severity of the sexual abuse experienced by these women. Eighteen percent ( $N = 27$ ) of the women reported experiencing "one or more less severe incidents," including fondling and frottage; 40% ( $N = 59$ ) experienced "one severe incident," including attempted or completed oral, anal, or vaginal sex, and digital penetration; 18% ( $N = 26$ ) experienced "one severe and one or more less severe incidents," such as one rape and one or more fondling incidents, and 24% ( $N = 36$ ) experienced "two or more severe incidents," for instance, an attempted rape and a digital penetration.

Thirty-four percent of the women ( $N = 50$ ) reported being abused by a perpetrator that was not a family member (i.e. extrafamilial abuse), 43% ( $N = 63$ ) reported abuse by a family member (i.e. intrafamilial abuse), and 24% ( $N = 35$ ) experienced being abused by both intra- and inter-familial perpetrators. The mean number of sexual abuse incidents by different perpetrators reported by these women was 1.8, with a range of 1 to 6 incidents, and on average, the abuse continued for 2 years. In addition, 49% ( $N = 73$ ) of the women also reported having been sexually abused as adults.

### Outcomes

Contrary to evidence reported in previous studies, the women reported using condoms a surprisingly large percentage of the time with their main partners (67%), and 80% were behaviorally "sexually safer," mainly because they were abstinent. However, this sample evidenced substantial psycho-

logical distress. The mean score on the CES-D, indicating depressive symptoms, was 40 ( $SD = 13$ ) with a range from 20 to 72, the mean score for PTSD symptoms was 8 ( $SD = 3$ ) with a range from 0 to 11, and the mean score for trauma-related sexual concerns was 6 ( $SD = 3$ ) and ranged from 0 to 44. The clinical cutoff score for the CES-D is 16 for mild depressive symptoms and 21 for moderate to severe symptoms; thus this population appears to be experiencing a high level of depressive symptoms.

### Associations Between CSA Severity, ASA and Psychological Functioning

Results of the bivariate analyses indicated that the relationship to perpetrator was a significant predictor of PTSD symptoms,  $F(2) = 4.45$ ,  $p < .01$ , with more PTSD symptoms among those who reported intrafamilial abuse or both intrafamilial and extrafamilial abuse compared to those who reported only experiencing extrafamilial abuse. Also, the number of CSA perpetrators was positively but marginally associated with trauma-related sexual symptom scores,  $F(2) = 2.68$ ,  $p = .07$ . In addition, ASA was significantly associated with number of trauma-related sexual symptoms,  $t(94) = 2.38$ ,  $p < .05$ , and with lower condom use,  $t(86) = 1.98$ ,  $p < .05$ , and marginally associated with depression,  $t(146)$ ,  $p = .06$ . None of the other indicators of severity of CSA were significantly associated with any of the outcomes, including with either condom use or safer sex.

Finally, a series of multivariate regression models were run testing the relative contributions of demographic factors, severity of CSA, and ASA on psychological outcomes. The predictors of outcomes in the multivariate models were selected based on bivariate analyses along with clinical and psychosocial rationales, which indicated that only PTSD and trauma-related sexual concerns were significantly associated with one or more of the predictors. Therefore, multivariate models of depression and sexual behaviors were not run. Also, because of the small number in the sample, the European American women were omitted from the multivariate analyses that included ethnicity as a predictor.

Tables I and II show the multivariate regression results for modeling PTSD and trauma-related sexual symptoms as a function of demographics (i.e. age, education, employment, relationship to partner, race/ethnicity), adult sexual abuse experience, and relationship to perpetrators, for PTSD, or number

**Table I.** Multivariate Regression Model of PTSD

Measures	Parameter estimate	Standard error	t-Value
Intercept	7.02	2.43	2.89
Intrafamilial abuse	1.97	0.83	2.36*
Intra/extra-fam. abuse	2.49	0.98	2.55*
Had any ASA incident	1.72	0.75	2.29*
Age	0.03	0.05	0.57
Education	-1.12	0.77	-1.47
Employment	1.03	1.58	0.65
Dating	-1.50	0.91	-1.66
No relationship	-1.14	0.93	-1.23
African American	2.28	1.54	1.49
Latina	3.29	1.59	2.06*

\* $p < .05$ .

of incidents by different perpetrators, for trauma-related sexual symptoms. Both models had an adjusted  $R$ -square of 0.16, and both models were significant,  $F(10|132) = 2.58, p < .01$  for PTSD and  $F(9|133) = 2.92, p < .01$  for trauma-related sexual symptoms.

Results of the regression model for PTSD indicated that being abused by a family member  $\beta = 1.97, p < .01$ , or by both a family and non-family member,  $\beta = 2.49, p < .01$ , having been sexually abused as an adult,  $\beta = 1.72, p < .05$ , and being Latina,  $\beta = 3.29, p < .05$ , were significant independent predictors of PTSD symptoms.

Results of the regression model for trauma-related sexual symptoms indicated that experiencing sexual abuse as an adult  $\beta = 3.31, p < .05$ , and the number of CSA incidents committed by different perpetrators,  $\beta = 1.22, p \leq .05$ , were significant predictors of trauma-related sexual symptoms. The latter suggests that women who experienced multiple incidents of abuse committed by several dif-

ferent perpetrators reported having more trauma-related sexual symptoms than those who experienced fewer incidents of sexual abuse committed by fewer perpetrators.

## DISCUSSION

The purpose of this study was to investigate the contribution of severity of the experience of childhood sexual abuse and adult re-victimization as predictors of adverse psychological and behavioral outcomes in a multi-ethnic sample of women who carry the dual burden of HIV and CSA histories. This is one of few studies that examined the components of the severity of CSA that may represent different cognitive and emotional experiences and relate them to subsequent distress and functioning. Our results confirmed previous findings that a large percentage of HIV-positive women have experienced severe types of childhood sexual abuse (Wyatt et al., 2002a). For example, our results indicate that while some women only reported incidents involving less severe abuse, two out of three women reported more severe sexual abuse, including attempted or completed incidents of vaginal, oral and/or anal penetration. One in four also reported incidents perpetrated by both family and non-family members.

The primary findings also provide partial support for measuring CSA as a multidimensional construct with differential effects on functional outcomes. Our results indicated, as expected, that exposure to abuse from family members or perpetrators both within and outside of the family was associated with more PTSD symptoms than exposure to extrafamilial abuse alone. Also, being re-victimized as an adult, especially by several different perpetrators was associated with more PTSD and trauma-related sexual problems. It is very likely, as suggested by previous studies, that intrafamilial abuse is more psychologically debilitating because of the violation of trust and because it is more likely to involve multiple incidents over a longer period of time (Putnam, 2003). This is also consistent with Freyd's (1996) social-betrayal model of CSA that predicts more dissociation and amnesia from abuse by trusted persons within the family. Our results also suggest that the dissociation, numbing and amnesia that comprise the way victims cope with social betrayal may have the additional cost of enhancing risk for extrafamilial abuse, and that the combined burden of both

**Table II.** Multivariate Regression Model of Trauma-Related Sexual Concerns

Variable	Parameter estimate	Standard error	t-Value
Intercept	3.74	4.66	0.80
Number of incidents	1.22	0.67	1.82
Had any ASA incident	3.31	1.39	2.37*
Age	-0.10	0.09	-1.11
Education	0.93	1.41	0.66
Employment	-2.89	2.94	-0.98
Dating	1.95	1.69	1.15
No relationship	-3.08	1.71	-1.80
African American	2.59	2.85	0.91
Latina	1.47	2.95	0.50

\* $p < .05$ .

sources of abuse have more detrimental effects than intrafamilial abuse has by itself. However, we did not adequately assess degree of dissociation in this study, which limits our ability to formally test dissociation as a psychological mechanism through which the dual exposure to intrafamilial and extrafamilial sexual abuse could confer greater risk for PTSD. Future studies will be needed to investigate this hypothesis. Nevertheless, these findings have important implications for risk and harm reduction interventions with women with CSA histories, because dually abused women may be less able to benefit fully from the intervention, perhaps because of difficulty processing emotionally charged sexual material. Thus, the effectiveness of interventions may depend on fully assessing the nature of the previous abuse and gradually introducing sexual information and processing if participants have a dual history of intra- and extrafamilial abuse. Otherwise, interventions may run the risk of losing participants to dissociation during treatment or to attrition.

However, and contrary to expectations and to previous evidence (Lodico and DiClemente, 1994; Bensley *et al.*, 2000; Wyatt *et al.*, 2002b), none of the different dimensions of CSA studied were consistent predictors of risky sexual behaviors or were significantly associated with depressive symptoms. In fact, the majority of the women in our sample reported engaging in safer sex, which may be accounted for by the fact that a large percentage of the participants were abstinent, which places them at substantially lower behavioral risk than those who were sexually active. On the other hand, the high rate of self-reported condom use with primary partners suggest that caution should be exercised in interpreting these negative findings, and conclusions about the relationship between severity of CSA and risky sexual behavior will need to await replication.

The finding that being Latina compared to being African American was an independent risk factor for PTSD in this sample is both unexpected and puzzling. Post-hoc analyses confirmed that the Latinas reported significantly higher mean PTSD symptoms and less education than the African American women, but failed to identify any other consistent differences between these groups that would account for this finding. It is possible that the Latinas, particularly those who were monolingual or less acculturated, were more socially isolated (Romero *et al.*, 1998–1999) and may have been less likely to disclose their abuse (Simoni *et al.*, 1995). Another possibility is that they experienced abuse

that was more traumatic in ways that were not assessed by the four dimensions of abuse severity investigated. Alternatively, it is possible that in the context of their collectivistic cultural orientation, the consequences of CSA—particularly intrafamilial abuse—may be much more severe for Latinas. A collectivistic cultural orientation may privilege the maintenance of family bonds and relationships over the disruption caused by acknowledging and addressing sexual abuse occurring in the family. Therefore, because sexual abuse breaches primary cultural values in Latino families, it may be handled in a manner that adversely affects the child victims of the abuse, such as ignoring it, blaming the victim, or, as found in one study female victims reported being forced to marry the perpetrators of their abuse (Romero *et al.*, 1998–1999). Additional studies will be needed to determine whether this is a reliable finding and testing this cultural explanation using larger, more representative and more ethnically balanced samples.

Finally, the results on trauma-related sexual symptoms were more modest, with only reports of adult sexual abuse making an independent contribution to sexual dysfunction. This finding provides additional support for the hypothesis that cumulative burden of abuse from multiple sources contributes to greater distress and dysfunction, and underscores the long term detrimental psychological impact that repeated sexual trauma has for HIV-positive women. For some women, repeated CSA incidents by different perpetrators, coupled with adult sexual abuse, results in profound psychological distress that could potentially complicate many aspects of HIV-prevention and treatment. Future studies are needed to replicate these results in larger, more representative and ethnically diverse samples of HIV-positive women, including a better representation of European American women, which would allow more sensitive tests of possible ethnic differences in exposure and impact of abuse. Studies are also needed to estimate the incremental increase in risk for adverse psychological and behavioral outcomes attributable to HIV, CSA and/or ASA vs. their combined effect. Additional studies are also needed that examine the sexual schemas of CSA positive women, and the strategies they use to cope with the challenges they face. Current efforts to reduce HIV transmission for women living with HIV that do not consider the cumulative psychological burden of CSA that women carry before becoming HIV infected may be limited in addressing their service needs. Living with HIV

may be only one of many challenges that women, especially ethnic minority women, face.

While our results provide additional support for the impact of severity of CSA on HIV-positive women's sexual and psychological functioning, there are several limitations of the study that are worth noting. First, ours was a convenience sample of predominantly low income, HIV-positive African American and Latina women with CSA histories who were recruited from clinics and the community at large in Los Angeles County. Second, HIV-positive European American women were underrepresented in this study, which precluded testing for possible ethnic differences in exposure to CSA and ASA, as well as testing for possible differences in their psychological and behavioral effects. Therefore, caution should be exercised in interpreting our results as representative of women, including women of color who are from less socio-economically disadvantaged backgrounds. Third, reports of CSA and the circumstances of their experiences are based on self-reports without any outside verification of their accuracy. This is a common limitation of most studies of CSA, which is difficult to overcome due to both logistical (i.e. identifying reliable independent reporters) and legal obstacles. Fourth, our efforts to capture the burden of abuse would be further enhanced by developing a single reliable and valid index of severity of CSA that takes into account as many dimensions of CSA experiences as possible rather than testing the effects of each dimension separately. Finally, our results will need to be replicated on larger, more socio-economically and ethnically representative samples.

Despite these limitations, however, the study provides the first test of a more comprehensive approach to assessing the overall burden of sexual abuse and the first estimates of the relative contribution that severity of CSA makes in sexual risk-taking and psychological distress in a socio-economically marginalized sample of HIV-infected women. Understanding the nature of past experiences can help to design interventions that can more effectively address the specific needs of women with sexual abuse histories, especially HIV-positive women of color. Far too often, women's risk behaviors and psychological symptoms have been the focus of HIV prevention efforts without adequate attention to pre-existing vulnerabilities that contribute to the outcomes investigated. This study helps to identify how early experiences can also contribute to sexual and psychological

vulnerability and provide additional guidance to strengthen interventions for HIV-positive women.

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