# *Prevalence and Correlates of Violence Exposure Among HIV-Infected Adolescents*

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*Violence exposure among HIV-infected adolescents was estimated using Poisson regression and adjusted event rate ratios (ERR). Of 166 urban adolescents (99 perinatally infected youth [PIY]; 67 behaviorally infected youth [BIY]) 52.5% (*n = *85) experienced violence; 79% (*n = *131) witnessed violence. Sexual violence was experienced by 18% (6 PIY, 24 BIY) before age 13 years and by 15% (6 PIY, 19 BIY) during adolescence. BIY were significantly more likely than PIY to have experienced and witnessed violence. Controlling for transmission, ever-bartered sex (ERR = 1.92, CI [1.31 to 2.81],* p = *.009) and family disruptions (ERR = 1.19, CI [1.03 to 1.39],* p = *.022) were associated with violence victimization. Family disruptions (ERR = 1.17, CI [1.05 to 1.30],* p = *.004), female gender (ERR = 1.32, CI [1.05 to 1.66],* p = *.017), and heterosexual orientation (ERR = 1.48, CI = [1.11 to 1.97],* p = *.006) were associated with witnessing violence.*

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Homicide is the second-leading cause of death for youth ages 15–24 years. More than 700,000 youth ages 10–24 years were treated in emergency departments in 2010 for injuries sustained due to violence (Hall et al., 2012). Experiencing or witnessing interpersonal violence has been associated with multiple negative physical and mental health outcomes (Finkelhor, Turner, Ormrod, & Hamby, 2009; Noll & Shenk, 2010; Voisin, 2003; Voisin et al., 2007). The classic Adverse Childhood Experiences study (Felitti et al., 1998) found childhood violence exposure to be strongly associated with premature morbidity and mortality in adulthood. Rigorous studies have demonstrated that childhood sexual abuse and other traumatic experiences are related to health problems in adolescence (Clark, Thatcher, &

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Martin, 2010) and adulthood (Boynton-Jarrett, Ryan, Berkman, & Wright, 2008; Irish, Kobayashi, & Delahanty, 2010; Krug, Mercy, Dahlberg, & Zwi, 2002). Interpersonal violence also increases the risk for psychological problems (Fowler, Tompsett, Braaciszewski, Jacques-Tiura, & Baltes, 2009; Margolin, Vickerman, Oliver, & Gordis, 2010; Turner, Finkelhor, & Ormrod, 2010).

Many youth living with HIV (YLH) have experienced physical and/or sexual violence in their lives (Martinez, Hosek, & Carleton, 2009). These findings come primarily from adolescents with behaviorally acquired HIV, referred to here as *behaviorally infected youth* (BIY). With the exception of child sexual abuse findings from our sample (Koenig et al., 2010), no published studies have examined exposure to a range of violence experiences among perinatally infected youth (PIY). Moreover, there are few studies of the relationship between violence exposure and risky sexual behavior in YLH in general.

The prevalence of violence exposure in YLH has important implications for public health (Finkelhor et al., 2009; Krug et al., 2002). Early exposure to violence can interrupt new learning (Wilson & Rosenthal, 2003) and self-care (Boynton-Jarrett et al., 2008; Krug et al., 2002) through its influence on brain activity, including hypothalamic-pituitary-adrenal (HPA) axis dysfunction and the associated capacities for affect regulation (Felitti et al., 1998), and attention and concentration (Hurt, Malmud, Brodsky, & Giannetta, 2001). In addition, through its relation to mental health problems, it may also increase sexual risk behavior (Voisin, 2003; Voisin et al., 2007).

To better characterize the experiences of YLH, we examined violence exposure among adolescents participating in an intervention for HIV-infected youth. We: (a) describe the rates of *violence victimization* (i.e., experiencing interpersonal violence) and *witnessing violence* (i.e., seeing someone beat-up, robbed/mugged, stabbed/shot, or knowing someone who was killed through violence); (b) examine differences in violence experiences across sociodemographic characteristics, sexual behavior, and mode of transmission; and (c) identify associations between violence and HIV risk behaviors.

## Method

### Participants and Procedures

Data were drawn from the baseline assessment of the Adolescent Impact Study, a behavioral intervention to improve health and reduce risk behavior of seropositive adolescents. Participants were receiving care in one of five HIV clinics in Baltimore, Maryland; New York, New York; or Washington, DC. The institutional review boards at the Centers for Disease Control and Prevention (CDC) and participating sites approved the study. Clinical staff referred youth to participate in the study based on the following eligibility criteria: ages 13–21 years, knowledge of serostatus, absence of acute psychiatric distress, and absence of developmental delay. Consent was obtained from participants ages 18 years or older and emancipated minors; assent with parental consent was obtained from minors. Baseline data were collected from 166 enrolled youth between 2003 and 2005. Violence exposure, sexual behaviors, drug use, and psychosocial and demographic characteristics were collected using Audio Computer-Assisted Self-Interviews (ACASI). HIV exposure and HIV clinical data were abstracted from medical records. Detailed methods of the parent study have been published elsewhere (Chandwani, Abramowitz, Koenig, Barnes, & D'Angelo, 2011).

### Measures

Demographic variables included age, race, ethnicity, and self-identified sexual orientation (coded as *heterosexual* or non-heterosexual [*bisexual, homosexual,* or *unsure*]). Data were obtained by interview and confirmed by chart review when available.

*Experiencing violence* and *witnessing violence* were determined based on participant reports to 12 items from a negative life-events checklist. Adapted from a study of children of HIV-infected mothers (Family Health Project Research Group, 1998), the inventory was modified for use with HIV-infected youth, including the addition of several items to assess whether they had witnessed violence. Participants were asked to indicate events that had ever happened to them. Affirmative responses to each of