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Mediation effects of problem drinking and marijuana use on HIV sexual risk behaviors among childhood sexually abused South African heterosexual men☆

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ABSTRACT

HIV/AIDS prevalence in South Africa is one of the highest in the world with heterosexual, transmission predominantly promoting the epidemic. The goal of this study is to examine whether, marijuana use and problem drinking mediate the relationship between histories of childhood sexual, abuse (CSA) and HIV risk behaviors among heterosexual men. Participants were 1181 Black men aged, 18–45 from randomly selected neighborhoods in Eastern Cape Province, South Africa. Audio computer assisted, self-interviewing was used to assess self-reported childhood sexual abuse, problem drinking, and marijuana (dagga) use, and HIV sexual transmission behavior with steady and casual partners. Data were analyzed using multiple meditational modeling. There was more support for problem, drinking than marijuana use as a mediator. Findings suggest that problem drinking and marijuana use, mediate HIV sexual risk behaviors in men with histories of CSA. Focusing on men with histories of CSA, and their use of marijuana and alcohol may be particularly useful for designing strategies to reduce, HIV sexual transmission in South Africa.

HIV/AIDS prevalence in South Africa is one of the highest in the world with heterosexual transmission predominantly promoting the epidemic. Men play a particularly critical role in containing the heterosexual transmission of HIV. Studies show that childhood sexual abuse (CSA) is related to HIV sexual risk behaviors among men and women (Benotsch et al., 2001; O'Leary, Purcell, Remien, & Gomez, 2003; Sweet & Welles, 2012). However, no studies to date have sought to examine the relationship between CSA and sexual transmission risk behavior among a sample comprised exclusively of South African heterosexual men. The present study addresses this gap in the literature.

A meta-analysis of 169 international studies found that lifetime prevalence rates of CSA for females is 25% and for males is 8% (World Health Organization, 2001). A cross-sectional survey of in-school youth in southern African counties in 2003 and 2007 revealed that 19.6% of the female students and 21.1% of the male students aged 11–16 years reported that they had experienced forced or coerced sex (Andersson et al., 2012). Research with rural South African male and female youth in the Eastern Cape found 23.9% of the females and 12.8% of the males reported that they had experienced childhood sexual

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abuse (Jewkes, Dunkle, Nduna, Jama, & Puren, 2010). The exact prevalence of CSA in the general population is not known as definitions and measures of child sexual abuse differ across studies. Some studies define CSA as the occurrence of some form of direct or indirect physical genital contact experienced by a minor (Andersson et al., 2012; Arreola, Neilands, & Diaz, 2009; Dilorio, Hartwell, Hansen, & Prevention, 2002). Other studies define CSA more broadly to include the sending of electronic sexual images to a minor (Sweet & Welles, 2012). Studies also differ in defining the cut-off age for measuring CSA (Stoltenborgh, van Ijzendoorn, Euser, & Bakermans-Kranenburg, 2011). Measures range from age 13 (Dilorio et al., 2002; Jones et al., 2010; McCarthy, 2010; Wilson, 2010), to more circumscribed criteria, i.e., a sexual experience with a person at least 5 years older than the child if the child was 12 or younger or sexual experience with a person 10 years older if the child was ages 13–16 (Finkelhor, 1979, 2009).

Studies of adults' reports of CSA have primarily focused on women (Dickson, Herbison, & Paul, 2009; Spiegel, 2003). The limited studies of CSA among men have tended to focus on gay and bisexual men (Jewkes et al., 2010; Purcell, Malow, Dolezal, & Carballo-Dieguez, 2004; Spiegel, 2003). The sparse research on CSA among heterosexual men is based largely on convenience samples (Lloyd & Operario, 2012; Markowitz et al., 2011). Among the few studies utilizing randomly selected samples, Jewkes et al. (2011) found that childhood trauma measured by emotional abuse and neglect, physical abuse and neglect, and sexual abuse, was associated with rape perpetration in South African men. In a large multisite randomized trial of high-risk U.S. men and women, Dilorio et al. (2002) found men with a history of CSA were 1.23 times as likely to report problems with alcohol use. A qualitative study on a small sample investigating CSA in male victims perpetrated by females found substance abuse, suicide, and self-injury among the reported long term effects (Denov, 2004). Other studies report that alcohol and substance abuse, as well as less sexual satisfaction are common among adult men who are victims of CSA (Finkelhor, 1990; Leary & Gould, 2010; Wilsnack, Wilsnack, Kristjanson, Holm-Vogeltanz, & Harris, 2004a).

Recent efforts have been made to identify mediators of the effects of CSA on HIV sexual risk behaviors. Two behaviors in particular, alcohol and marijuana use, have been found to be associated with a history of CSA among adult men and women (Duncan et al., 2008; Howard & Wang, 2005; Wilsnack, Wilsnack, Kristijanson, Holm-Vogeltanz, & Harris, 2004b). Several authors have presented conceptual models theorizing paths through which CSA influences cognitions and attitudes resulting in problem behaviors, including alcohol and drug-related behaviors causing HIV risk behaviors (Miller, 1999; Quina, Morokoff, Harlow, & Zurbriggen, 2004). Benotsch et al. (2001) tested, in a sample of self-identified gay and bisexual men, several possible mediators, including substance use and trauma-related anxiety. They reported that men who had been sexually abused in childhood or adulthood exhibited more symptoms of substance use than did other men. A study by O'Leary and colleagues (2003) found a history of CSA to be significantly associated with unprotected anal sex in a sample of HIV-positive men who have sex with men (MSM) in the US, and found this relationship to be mediated by suicidality (receptive anal intercourse), and hostility (insertive anal intercourse).

Numerous researchers have investigated the relationship between HIV sexual risk behaviors and the use of drugs or alcohol among CSA adult victims. Zierler et al. (1991), investigating the causes of transmission of HIV in a sample of women and men who volunteered for a testing and counseling program, found that survivors of CSA used alcohol or tranquilizers 70–80% more than participants not reporting CSA. Studies also show heterosexual men who reported CSA are more likely to use alcohol before sex and to have more sexual partners (Schraufnagel, Davis, George, & Norris, 2010).

The present study

Research indicates that CSA predicts adult involvement in HIV sexual risk behaviors, including unprotected sexual intercourse and sex with multiple partners (Brennan, Hellerstedt, Ross, & Welles, 2007; Koenig, Doll, O'Leary, & Pequegnat, 2004; Lloyd & Operario, 2012). Studies also reveal relationships between CSA and alcohol and substance use. Although the literature suggests that problem drinking and marijuana use are associated with CSA, an understanding of the causal pathways through which these problem behaviors operate to influence HIV sexual risk behaviors is incomplete. Understanding the mechanisms influencing HIV sexual risk behaviors among adult victims of CSA are best explored via mediation analysis (Baron & Kenny, 1986; Hayes and Preacher, 2008). We empirically tested whether associations between CSA and HIV sexual risk behaviors are mediated through problem drinking and marijuana use among Black South African men who have sex with women.

Method

Participants

Institutional review board (IRB) #8 at the University of Pennsylvania, which was the designated IRB under the federal wide assurance of the University of Pennsylvania and the University of Fort Hare, reviewed and approved this study. The participants were residents of townships near East London in Eastern Cape Province, South Africa, including Mdantsane, Scenery Park, Duncan Village, and Gompo Town, and the semi-rural area of Berlin who completed a baseline questionnaire as part of a neighborhood-based health promotion intervention trial.

As reported elsewhere (Jemmott et al., 2013), participants enrolled in the trial during a 25-month period beginning in November 2007. Before recruiting from a neighborhood, research team members met with community leaders to enlist their support. We then held a meeting to inform men about the study and advertised it using posters and other materials. Using