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Community trauma as a predictor of sexual risk, marijuana use, and psychosocial outcomes among detained African-American female adolescents

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Abstract

Social determinants contribute to health disparities. Previous research has indicated that community trauma is associated with negative health outcomes. This study examined the impact of community trauma on sexual risk, marijuana use and mental health among African-American female adolescents in a juvenile detention center. One hundred and eighty-eight African-American female adolescents, aged 13–17 years, were recruited from a short-term detention facility and completed assessments on community trauma, sexual risk behavior, marijuana use, symptoms of posttraumatic stress disorder and psychosocial HIV/STD risk factors. Findings indicate that community trauma was associated with unprotected sex, having a sex partner with a correctional/juvenile justice history, sexual sensation seeking, marijuana use, affiliation with deviant peers and posttraumatic stress disorder symptoms at baseline and longitudinally. Findings reinforce the impact of community-level factors and co-occurring health issues, particularly in high-risk environments and among vulnerable populations. Structural and community-level interventions and policy-level changes may help improve access to resources and improve adolescents' overall health and standard of living in at-risk communities.

Keywords

Neighborhood; violence; HIV/STD; incarcerated; mental health; substance use

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CDC Disclaimer

The findings and conclusions in this report are those of the author(s) and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Introduction

Social determinants of health are key factors contributing to health disparities in the United States. African-Americans are disproportionately at risk for exposure to societal stressors, including neighborhood violence (Katz, Esparza, Carter, Grant, & Meyerson, 2012). One societal stressor, community trauma, has been directly or indirectly associated with poor health outcomes, including intimate partner violence (Caetano, Ramisetty-Mikler, & Harris, 2010; Raiford, Seth, Braxton, & DiClemente, 2013), substance use (Seth, Murray, Braxton, & DiClemente, 2013), sexual risk behavior (Voisin, Jenkins, & Takahashi, 2011; Wilson, Woods, Emerson, & Donenberg, 2012) and poor mental health outcomes (Katz et al., 2012; Slopen, Fitzmaurice, Williams, & Gilman, 2012; Zona & Milan, 2011). Community trauma consists of acts of aggression (e.g. muggings, robberies, rape, gang or gun-related incidents) outside the home among people who may or may not know each other (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002).

Previous research indicates that while boys experience more neighborhood stressors, girls may manifest greater adverse outcomes (Zona & Milan, 2011). These adverse outcomes may be further exacerbated among vulnerable female adolescents, such as those in the juvenile justice system. Compared to non-detained girls, detained girls are at higher risk for several adverse health outcomes, including substance use, poor mental health and sexual risk behavior (Chesney-Lind & Sheldon, 1998; Robertson et al., 2011; Tolou-Shams, Stewart, Fasciano, & Brown, 2010). Therefore, the present study aims to better understand the impact of community trauma on these multiple adverse outcomes among detained African-American female adolescents at baseline, 3-month and 6-month follow-up. To our knowledge, this is one of the first studies to longitudinally examine the impact of community trauma on adverse health outcomes among this population.

Materials and methods

From March 2011 to February 2012, female adolescents from a short-term juvenile detention facility were screened for enrollment in a culturally sensitive HIV prevention program (DiClemente et al., 2014). African-American females aged 13–17 years who reported lifetime vaginal intercourse were eligible. Adolescents who were married, currently pregnant, wards of the State of Georgia or scheduled to be placed in a restricted location upon release were excluded. Of the 202 eligible adolescents, 188 (93.1%) completed baseline assessments; of those, 172 completed 3-month assessments (91.5%) and 171 (91%) completed 6-month assessments. Participants provided written informed assent, and parents provided verbal consent. Participants were not compensated while detained but were given up to $150 for completion of all intervention sessions and assessments over the 6-month follow-up period, subsequent to release from detention. The Institutional Review Board approved all study protocols prior to implementation.

Data collection and measures

Participants completed study measures via an audio computer-assisted survey interview at baseline, 3-month and 6-month follow-up. Emotional and psychological community trauma (i.e. perceived number of muggings, robberies, rape, gang or gun-related incidents in

their neighborhood) was the predictor. Community trauma was measured using an 11-item questionnaire with response choices ranging from 1 (often) to 3 (never). High versus low exposure to community trauma was calculated utilizing a median split technique of the distribution of scores (median = 30).

Outcomes included HIV/STI-associated sexual risk factors, substance use and posttraumatic stress disorder (PTSD) symptoms. HIV/STI-associated sexual risk factors and behavior included unprotected sex in the past 30 days (yes vs. no) and having a sex partner(s) with corrections or juvenile justice history in the past 90 days (yes vs. no). Sexual sensation seeking (high vs. low) was measured using a 9-item scale, and responses ranged from 1 (strongly disagree) to 5 (strongly agree) (e.g. when it comes to sex, I am willing to try anything). Affiliation with deviant peers (high vs. low) was measured using a 17-item scale, and response ranged from 0 (none of them) to 3 (all of them) (e.g. How many of your close friends in the past 3 months have skipped school without an excuse?). Additionally, marijuana use during the past 3 months was assessed (yes vs. no). Finally, PTSD symptoms (high vs. low) were measured via a 17-item scale that assesses the presence and severity of *DSM-IV* PTSD symptoms related to a single identified traumatic event in individuals with a known trauma history (e.g. having upsetting thoughts or images about the trauma that came into your head when you did not want them to). Responses ranged from 1 (not at all or only one time) to 4 (five or more times per week/almost always). The median split technique was utilized to categorize PTSD symptoms, sexual sensation seeking and affiliation with deviant peers. Medians for each assessment period are reported in Table 1.

Data analysis plan

Logistic regression models examined the association between community trauma and sexual risk behavior, psychosocial factors, marijuana use and PTSD symptoms at baseline. Generalized estimating equations (GEE) assessed population-averaged effects of baseline community trauma on these same outcomes over the 3- and 6-month follow-up. Intervention condition, person with whom they resided, and age were covariates in all analyses.

Results

Participant characteristics experiencing community trauma and study outcomes are in Table 1. Participants' mean age was 15.3 years (SD = 1.1) at baseline, and the average number of days detained was 3.8 (SD = 4.9). A majority (71.3%) reported having lived in a household that received public financial assistance, and 93% had completed ninth or tenth grade.

Logistic regression analyses indicated that those who reported high levels of community trauma were more likely to report unprotected sex, sex partner(s) with corrections or juvenile justice history, sexual sensation seeking, marijuana use, deviant peers and PTSD symptoms at baseline. GEE analyses indicated that high levels of community trauma at baseline significantly predicted unprotected sex and marijuana use over 3-month follow-up. Additionally, high levels of community trauma at baseline significantly predicted sexual sensation seeking, deviant peers and PTSD symptoms over the 3-month and 6-month follow-up (Table 2).

Discussion

The current findings highlight the impact of a community-level social determinant of health on multiple health outcomes (Caetano et al., 2010; Katz et al., 2012; Raiford et al., 2013; Seth et al., 2013; Slopen et al., 2012; Voisin et al., 2011; Wilson et al., 2012; Zona & Milan, 2011). High exposure to community trauma was associated with sexual risk, marijuana use and PTSD symptoms among African-American female adolescents experiencing short-term detention. These findings were consistent with previous findings identifying community trauma as directly or indirectly associated with intimate partner violence, substance use, sexual risk behavior and poor mental health outcomes (Caetano et al., 2010; Katz et al., 2012; Raiford et al., 2013; Seth et al., 2013; Slopen et al., 2012; Voisin et al., 2011; Wilson et al., 2012; Zona & Milan, 2011). Adolescents living in a high-risk environment may engage in health risk behaviors, such as substance use and sexual risk behavior, to cope with and alleviate stress from immediate stressors or threats (Latkin, Curry, Hua, & Davey, 2007; Seth et al., 2013).

Furthermore, in the present study, by the 6-month follow-up, the individual-level risk behaviors were no longer associated with community trauma. However, affiliation with deviant peers and PTSD symptoms remained significant. For girls released into the same community, they continue to be exposed to deviant peer groups and traumatic events. Supporting communities that experience high rates of community violence and incarceration may be valuable in addressing community-level factors that can impact the health outcomes of adolescent girls involved in the juvenile justice system.

There are study limitations. The definition of community trauma was limited. Data are self-reported and subject to social desirability bias. The sample was homogenous; thus, the findings may not be generalizable to all detained adolescents or detained male adolescents. Finally, the sample size was relatively small ($N = 188$), which may limit precision of effect estimates. Further research with larger samples and diverse populations is important.

These findings suggest that there is a need to proactively address community factors and adverse health outcomes among female adolescents to prevent sustainment of risk behaviors into adulthood (Abram, Stokes, Welty, Aaby, & Teplin, 2017; Barnet et al., 2017). Integration of social and health services may help address co-occurring issues, such as mental health, substance use, sexual risk and violence, particularly in high-risk environments and among vulnerable populations. Examination of contextual factors that may affect community trauma, such as low socioeconomic status, unstable housing, economic and social deprivation, poor educational opportunities, residential segregation and inadequate health care, is important (Adimora & Schoenbach, 2002; Seth et al., 2013). Structural and community-level interventions and policy-level change may help improve access to resources to strengthen social and familial networks, improve educational systems, reduce neighborhood violence and criminal behavior and improve overall health and standard of living in communities.

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Table 1

Participant characteristics on community trauma and outcome variables at baseline, 3-month and 6-month follow-up.

	N (%)
Baseline	
Community trauma	
High	103 (54.8)
Low	85 (45.2)
Unprotected sex in the past 30 days	
Yes	101 (53.7)
No	87 (46.3)
Sex partner with correctional or juvenile history in the past 90 days	
Yes	47 (25.0)
No	141 (75.0)
Sexual sensation seeking[a]	
High	109 (58.0)
Low	79 (42.0)
Marijuana use in the past 3 months	
Yes	122 (64.9)
No	66 (35.1)
Affiliation with deviant peers[a]	
High	86 (45.7)
Low	102 (54.3)
Posttraumatic stress disorder symptoms[a]	
High	98 (52.1)
Low	90 (47.9)
3-month follow-up	
Unprotected sex in the past 30 days	
Yes	47 (27.3)
No	125 (72.7)
Sex partner with correctional or juvenile history in the past 90 days	
Yes	20 (10.6)
No	168 (89.4)
Sexual sensation seeking[a]	
High	94 (54.7)
Low	78 (45.3)
Marijuana use in the past 3 months	
Yes	77 (41.0)
No	111 (59.0)
Affiliation with deviant peers[a]	
High	57 (33.1)

	N (%)
Low	115 (66.9)
Posttraumatic stress disorder symptoms[a]	
High	81 (47.1)
Low	91 (52.9)
6-month follow-up	
Unprotected sex in the past 30 days	
Yes	58 (33.9)
No	113 (66.1)
Sex partner with correctional or juvenile history in the past 90 days	
Yes	21 (11.2)
No	167 (88.8)
Sexual sensation seeking[a]	
High	109 (58.0)
Low	79 (42.0)
Marijuana use in the past 3 months	
Yes	70 (37.2)
No	118 (62.8)
Affiliation with deviant peers[a]	
High	99 (52.7)
Low	89 (47.3)
Posttraumatic stress disorder symptoms[a]	
High	98 (52.1)
Low	90 (47.9)

[a]These outcomes were calculated utilizing a median split technique. The medians for sexual sensation seeking were 18 at baseline and 17 at 3- and 6-month follow-up. The medians for affiliation with deviant peers were 18 at baseline and 17 at 3- and 6-month follow-up. Finally, the medians for PTSD symptoms were 27 at baseline, 21 at 3-month follow-up and 19 at 6-month follow-up.

Table 2

Baseline and longitudinal adjusted and unadjusted associations between high community trauma exposure and outcomes.

	High community trauma exposure								
	Baseline			3-month follow-up			6-month follow-up		
Outcomes	**OR (95% CI)**	**AOR[a] (95% CI)**	***p***	**OR (95% CI)**	**AOR[a] (95% CI)**	***p***	**OR (95% CI)**	**AOR[a] (95% CI)**	***p***
Unprotected sex in the past 30 days	1.78 (1.00, 3.19)	1.82 (1.0, 3.34)	0.05	2.64 (1.29, 5.40)	2.75 (1.30, 5.79)	0.008	1.25 (0.66, 2.37)	1.32 (0.67, 2.62)	0.42
Sex partner with correctional or juvenile history in the past 90 days	2.39 (1.18, 4.85)	2.56 (1.22, 5.36)	0.01	1.01 (0.40, 2.56)	1.0 (0.38, 2.63)	0.99	1.39 (0.55, 3.53)	1.64 (0.61, 4.4)	0.32
Sexual sensation seeking	2.24 (1.35, 3.73)	2.54 (1.5, 4.3)	0.001	1.79 (1.06, 3.03)	2.00 (1.16, 3.46)	0.01	2.17 (1.28, 3.70)	2.32 (1.33, 4.05)	0.003
Marijuana use in the past 3 months	3.22 (1.72, 6.0)	3.34 (1.73, 6.42)	0.003	2.23 (1.22, 4.06)	2.21 (1.18, 4.12)	0.01	2.83 (0.97, 8.22)	2.8 (0.8, 9.8)	0.11
Affiliation with deviant peers	1.06 (1.03, 1.10)	2.41 (1.43, 4.1)	0.001	2.32 (1.37, 3.95)	2.19 (1.26, 3.79)	0.005	1.80 (1.06, 3.05)	1.97 (1.14, 3.42)	0.02
Posttraumatic stress disorder symptoms	1.03 (1.00, 1.05)	1.68 (1.0, 2.83)	0.05	2.72 (1.58, 4.69)	2.54 (1.45, 4.46)	0.001	1.92 (1.11, 3.31)	1.97 (1.11, 3.49)	0.02

[a]AOR - Adjusted odds ratio; Adjusted for intervention condition, person with whom participant lives, and age.