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Childhood trauma and METH abuse among men who have sex with men: Implications for intervention

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Abstract

Methamphetamine (METH) has become one of the most widely abused drugs in South Florida, particularly among MSM who may or may not be HIV seropositive. High rates of childhood trauma have been reported among HIV-infected MSM (Chartier et al., 2010), but, the association of childhood trauma, and mood disorders with methamphetamine use in HIV-infected men, has not been comprehensively explored. A better understanding of the association between these factors could improve existing substance abuse treatment intervention strategies and medical treatment programs (e.g., medication adherence; Carrico, 2010) to enhance positive health outcomes for male meth abusers living with the psychological consequences of childhood abuse. This study, as part of a larger study, examined the occurrence of childhood trauma and depression in a group of HIV seropositive METH abusing MSM. Significantly higher levels of depression symptom severity were found among METH users relative to non-METH users ($p < .001$). Irrespective of HIV status, METH users also reported higher frequencies of emotional, physical and sexual child

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abuse relative to non-METH users ($p < .001$). Among meth users, depression was predicted by childhood emotional neglect. These results suggest that childhood maltreatment may be implicated in the development of emotional distress (e.g., depression) and higher prevalence of methamphetamine/drug abuse in this population. These findings have important implications for substance abuse interventions, specifically targeting METH addiction among MSM. Addressing childhood trauma and depression may play a key role in enhancing the effectiveness of interventions for methamphetamine addiction.

Keywords

Methamphetamine; HIV; MSM; Childhood abuse; Substance abuse

1. Introduction

Childhood abuse is associated with increased vulnerability for the development of various psychiatric disorders in adulthood, including mood and anxiety disorders (Heim and Nemeroff, 2001; Nemeroff et al., 2003). Childhood abuse is defined here as the “physical and mental injury, sexual abuse, negligent treatment, or maltreatment of a child under the age of 18 years by a person who is responsible for the child’s welfare under circumstances which indicate that the child’s health or welfare is harmed or threatened” (Child Abuse Prevention and Treatment Act, 2010). A recent meta-analysis revealed that a substantial proportion of men who have sex with men (MSM) have childhood abuse histories (Lloyd and Operario, 2012). Childhood abuse increases vulnerability to psychiatric and substance abuse disorders (Anda et al., 2006, 2010) and it is estimated that 25%–40% of children are exposed to some form of childhood maltreatment (Browne and Finkelhor, 1986; Holmes, 1997). The prevalence of sexual abuse before 18 years of age is one in four for females and one in five for males, and up to 20% of males and 19% of females have been exposed to childhood physical abuse. Emotional abuse and neglect is also prevalent in victims of childhood physical and sexual abuse and has been associated with an increased risk of psychopathology in adulthood.

As noted above, mood disorders are associated with higher rates of exposure to childhood trauma and/or childhood abuse, and comorbid substance abuse is often conceptualized as a self-medication for mood disorders, particularly in depressed women (Bizzarri et al., 2009; Phillips and Johnson, 2001). In 1992, methamphetamine (METH), a highly addictive stimulant, started appearing on the West Coast of the US and in Hawaii. Currently, it is estimated that about 10 million people in the U.S. have abused METH in their lifetime (www.nida.nih.gov). METH abuse has become associated with negative medical and psychiatric complications (Carrico et al., 2010), and METH intoxication has been associated with unprotected sex and other high-risk behaviors that facilitate HIV infection. Most recently, methamphetamine has become one of the most widely abused drugs in South Florida, particularly among men having sex with men (MSM; Rajasingham et al., 2012; Mimiaga et al., 2008) and METH abuse has been identified as a risk factor for contracting HIV-1 infection. Although high rates of childhood trauma have been reported among HIV-infected MSM (Chartier et al., 2010), the association of childhood trauma, mood disorders

and METH use in HIV-infected men, has not been comprehensively explored. A better understanding of the association between these factors could improve existing substance treatment intervention and medical treatment programs (e.g., medication adherence; Carrico et al., 2010) to enhance positive health outcomes for male METH abusers living with the psychological consequences of childhood abuse.

The current study examines the occurrence of childhood trauma and depression in a group of HIV seropositive METH abusing MSM. The main objective of the study was to further elucidate the characteristics of METH abusers with childhood histories of physical, sexual and emotional abuse in order to provide the basis for more effective METH abuse interventions. It was hypothesized that the METH abusing men would be more likely to report a history of childhood trauma than those who did not abuse methamphetamine.

2. Methods

In order to maintain confidentiality and anonymity of the participants, a certificate of 'confidentiality' was procured from the National Institute on Drug Abuse (NIDA; funding agency). All study procedures were approved by the University of Miami Institutional Review Board prior to study onset. Participants were recruited from the local Miami-Dade community by distributing flyers and by word of mouth. Specifically, flyers were distributed among various substance abuse rehabilitation centers, substance abuse support groups, community HIV clinics and various nightclubs in the Miami-Dade area. In this study, a total of 112 men were screened for participation. Study participants enrolled were men having sex with men (MSM) who were HIV-1 seronegative METH abusers (n = 38), MSM HIV-1 seropositive METH abusers (n = 77), or HIV-1 seronegative non-METH abusers (n = 131) who did or did not identify as MSM. All participants provide informed consent at the time of enrollment, prior to undergoing study procedures. Most recent use of METH was a minimum of one week prior to the first study visit as per self-report.

2.1. Assessments

Participants were assessed by the study staff in a private room regarding demographic characteristics and depression (CESD, Radloff, 1977) during their first study visit. The Center for Epidemiologic Studies Depression Scale (CESD) score of ≥16 was considered as the definition of significant depressive symptoms. Substance use history was assessed by SCID (APP, 2007) and childhood trauma was assessed by the Childhood Trauma Questionnaire (CTSQ; Kenardy et al., 2006). Participants were provided with compensation for travel and time.

2.2. Statistical analyses

Descriptive statistics were computed to evaluate whether data met assumptions underlying statistical procedures. Data were examined for assumptions of normality and independence of observations using histograms and residual plots and appropriate data transformations were made as necessary. Preliminary analysis of the data included descriptive statistics (univariate analyses, means, standard deviations, medians, bivariate analyses and chi-square) in order to evaluate differences among the groups on demographic variables. Chi-square

tests were used to evaluate differences among the groups with respect to incidence of depression and childhood maltreatment. Finally, in an effort to better understand the relationship between historical psychosocial influences and current distress, multiple regression analyses were conducted to examine the relationship between reported childhood maltreatment (i.e., as indicated on the CTQ) and depression (i.e., as indicated on the CES-D).

3. Results

3.1. Participants

Participant characteristics differed by group (see Table 1). Marital status was assessed by self-report. Participants were asked to select their marital status as one of the five categories listed in Table 1 (i.e., Single, married, divorced, etc.). However, it is likely that most participants that abuse meth have more than one partner.

3.2. HIV+/METH+

The mean age of HIV-infected METH abusing participants (n = 77) was 41.8 years with a mean of 12 years of education. Of these, 43% self-identified as Hispanic, 34% as African–American, 1.3% as Haitian/Caribbean and 21% as Caucasian. In terms of employment, 72% were not employed, 18% were employed part-time and 8% were working full-time. Of the 77 participants in this group, 74% reported prior treatment for mental illness and 48% reported prior treatment for alcohol abuse.

3.3. HIV−/METH+

The mean age of HIV-uninfected methamphetamine abusing participants (n = 38) was 34 years, of whom 47% identified themselves as Hispanic, 21% as African–American, 0% as Haitian or of Caribbean descent and 26% as Caucasian. In terms of employment, 63% were not employed, 16% were employed part-time and 18% were working full-time. The mean years of education were 12.5 years. Of the 38 participants in this group, 52% reported prior treatment for mental illness and 34% reported prior treatment for alcohol abuse.

3.4. HIV−/non METH users

The mean age of non-methamphetamine using HIV-negative participants that did not identify as MSM (n = 131) was 36, of whom 65% identified as Hispanic, 21% as African–American, 1.5% as Haitian/Caribbean and 9% as Caucasian. In terms of employment, 32% were unemployed, 21.4% were employed part-time and 46% were working full-time. Participants had a mean of 13 years of education. Of the 131 participants in this group, 14% reported prior treatment for mental illness, and 3% reported prior treatment for alcohol abuse.

As shown in Table 2, significantly higher levels of depression symptom severity were found among meth users relative to non-METH users, irrespective of HIV status ($p < .001$). METH using participants also reported higher frequencies of emotional, physical and sexual child abuse, as well as emotional and physical neglect relative to non-meth users ($p < .001$). Regression modeling demonstrated that among METH users, depression was best predicted

by a reported history of emotional neglect. Childhood emotional, physical and sexual abuse did not contribute significantly to the prediction of depression among METH users. Emotional neglect accounted for 23.5% of the variance in depression among METH users ($p < .001$).

4. Discussion

Several studies have documented the association between adverse childhood events and adult substance abuse (Ekinci and Kandemir, 2014). Specifically, childhood sexual abuse (Cuellar and Curry, 2007; Vera et al., 2005) physical abuse and neglect (Mersky et al., 2013) have been identified as important risk factors for the development of substance abuse in adulthood. Findings of this study suggest that childhood neglect and trauma are implicated in the development of depression and METH abuse in MSM populations. We found a significant elevation in reported levels of childhood physical, emotional, and sexual abuse among meth abusers. Although we cannot absolutely infer causation, the temporal nature of the data suggest that childhood abuse, in any form, may be a predisposing factor for abuse of METH in adulthood. Data also revealed a strong relationship between METH abuse and current levels of depression. Although mild depression has been considered a risk factor for drug abuse, future studies will be needed to determine whether childhood abuse is a common pathway that leads to the manifestation of METH abuse potential and depression later in life.

These findings support the hypothesis that childhood abuse may influence the development of mood disorders, risky sexual behavior (i.e., unprotected sexual acts with multiple partners while under the influence of alcohol and/or illicit substances) and methamphetamine abuse in MSM. It is widely accepted that childhood experiences of abuse alter neurodevelopment in enduring ways that can result in predisposition or greater vulnerability for mood disorders and anxiety in adulthood (Heim and Nemeroff, 2001; Heim et al., 2009). Various studies have documented the comorbidity of mood disorders and METH abuse in MSM (Bousman et al., 2009; Carrico et al., 2010; Peck et al., 2005). One of the proposed working hypotheses is that METH abuse serves a self-medicating role for adults with comorbid mood disorders (Ullman et al., 2013). Several studies have also examined the association between mood disorders, METH abuse and risky sexual practices (i.e., unprotected sexual acts with multiple partners) that can potentially result in HIV infection (Salomon and Hamelin, 2008). These studies have concluded that METH abusing MSM are significantly more likely to engage in risky sexual behavior that increases risk of HIV infection. Similarly, there have been several studies that have examined the prevalence and association of childhood sexual abuse and HIV risk in MSM (Meade et al., 2012). These studies report that childhood sexual abuse is four times more prevalent among MSM as compared to heterosexual men (Friedman et al., 2011). Compared to MSM without a history of sexual abuse, MSM with childhood histories of sexual abuse are more likely to engage in risky sexual behavior including unprotected sex, greater numbers of casual sexual encounters and greater use of substances during sexual encounters (Arreola et al., 2009; Welles et al., 2009; Whetten et al., 2012). Interestingly, there is a paucity of research investigating the link between childhood abuse and METH abuse in adulthood.

Despite a growing literature linking childhood abuse with risky sexual behaviors (i.e., casual unprotected sexual encounters with multiple partners), HIV infection and METH abuse, the psychological effects of childhood abuse are frequently overlooked in most substance abuse intervention studies. In addition to adding to the literature in attempts to elucidate factors that predispose one to possible substance abuse, current findings have implications for substance abuse interventions targeting meth addiction among MSM. Current METH abuse treatments emphasize motivational interviewing techniques, behavior therapy and/or adherence to 12 step programs (Rawson et al., 2004, 2006). These interventions have modest effectiveness at best. Current findings suggest that this may be partially attributable to the fact that many METH abusers are dealing with the ingrained and longstanding effects of childhood abuse (Wilson et al., 2014). As such, although there are interventions designed to improve psychological functioning in individuals with HIV that abuse other drugs (Seedat, 2012), there is virtually no intervention that targets the psychological consequences of childhood abuse that likely influence risky sexual behavior, development of mood disorders and meth abuse (Sikkema et al., 2009). The results of the current study suggest that childhood abuse may function as an important variable that must be accounted for and directly targeted in order to maximize the effectiveness of current METH abuse treatment programs (Washington et al, 2011). These findings also support the need to target childhood experiences in the development of METH abuse interventions. Thus, the findings of the current study add to a growing body of literature which suggests that addressing childhood trauma and current depression may play a key role in enhancing the effectiveness of interventions for methamphetamine addiction.

Further research is needed to understand the specific pathways and mechanisms by which childhood sexual and physical abuse contributes to increased vulnerability for mood disorders, HIV infection and METH abuse. Although ethnicity was not a variable that was formally studied, the greater number of non-Caucasian participant meth users as compared to non-meth users warrants further study in order to investigate additional socioeconomic variables that may influence the development of meth abuse.

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Table 1

Participant demographics.

	HIV−/Meth+ mean (SD) or (%) N = 38	HIV+/Meth+ mean (SD) or (%) N = 77	HIV⁻/Meth⁻ mean (SD) or (%) N = 131	*p*
Age (years)	34.1 (9.4)	41.8 (8.2)	35.8 (10.6)	<0.001[a]
Education (years)	12.5 (2.2)	12.4 (2.7)	13.2 (2.6)	0.06
Ethnicity				0.006
Hispanic/Latino	47.4	42.9	64.9	
African–American	21.1	33.8	20.6%	
Haitian/Bahamian	0%	1.3%	1.5%	
Caucasian	26.3%	20.8%	9.2%	
Employment Status				<0.001
Not working	63.2	72.7	32.1	
Part-time	15.8	18.2	21.4	
Full-time	18.4	7.8%	45.8%	
Marital Status				<0.001
Single	89.5	90.9%	58.8%	
Married	2.6%	2.6%	27.5%	
Separated	2.6%	1.3%	3.8%	
Divorced	5.3%	2.6%	9.9%	
Widowed	0%	2.6%	0%	
Treatment for emotional problems	52.6%	74.0%	13.7%	<0.001
Treatment for alcohol problems	34.2%	48.1%	3.1%	<0.001
Treatment for substance use problems	50%	63.6%	1.5%	<0.001

[a]HIV+/Meth+ group > HIV−/Meth+ & HIV−/Meth− groups.

Table 2

Incidence of depression and childhood maltreatment.

	HIV−/Meth+ N = 38	HIV+/Meth+ N = 77	HIV−/Meth− N = 131	*p*
Depressed (CES-D > 16)	81.6%	87.0%	4.6%	<0.001
CTQ emotional abuse				<0.001
None to minimal	23.7%	18.2%	87.0%	
Low to moderate	31.6%	20.8%	9.2%	
Moderate to severe	5.3%	16.9%	0%	
Severe to extreme	39.5%	44.2%	3.8%	
CTQ physical abuse				<0.001
None to minimal	26.3%	23.4%	77.9%	
Low to moderate	13.2%	11.7%	14.5%	
Moderate to severe	13.2%	15.6%	3.1%	
Severe to extreme	47.4%	49.4%	4.6%	
CTQ sexual abuse				<0.001
None to minimal	44.7%	28.6%	92.4%	
Low to moderate	10.5%	3.9%	5.3%	
Moderate to severe	7.9%	13.0%	1.5%	
Severe to extreme	36.8%	54.5%	0.8%	
CTQ emotional neglect				<0.001
None to minimal	13.2%	15.6%	61.8%	
Low to moderate	36.8%	24.7%	30.5%	
Moderate to severe	23.7%	27.3%	3.1%	
Severe to extreme	26.3%	32.5%	4.6%	
CTQ physical neglect				<0.001
None to minimal	34.2%	22.1%	77.9%	
Low to moderate	18.4%	33.8%	19.1%	
Moderate to severe	26.3%	20.8%	0%	
Severe to extreme	21.1%	23.4%	3.1%	

Comparison of depression and child abuse rates among groups.