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Exposure to Traumatic Events Among Treatment-Seeking, Alcohol Dependent Women and Men without PTSD

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Abstract

We examined lifetime exposure to a range of traumatic events in 106 abstinent, treatment-engaged (85% residential; 15% outpatient), alcohol dependent women ($n = 53$) and men without current or lifetime posttraumatic stress disorder. Alcohol dependent women reported greater severity of childhood trauma, but similar lifetime exposure to traumatic events compared with men. Alcohol dependent women without cocaine abuse or dependence ($n = 10$) reported greater severity of childhood trauma than women with ($n = 43$), and men with ($n = 21$) or without ($n = 32$) cocaine abuse or dependence. Results extend previously observed gender differences in trauma histories among alcohol dependent adults and point to potential gender- and substance-specific drug co-addiction effects that may have been influenced by trauma exposure.

Women and men with trauma histories comprise a significant proportion of the population seeking treatment for alcohol and other substance use disorders (Ouimette, Kimerling, Shaw, & Moos, 2000; Rice, et al., 2001). Although findings vary somewhat depending on the patient population, type of trauma examined, diagnostic criteria, and the measurement approaches employed, trauma exposure rates among substance abusers remain considerably higher than the general population (Briere & Elliott, 2003; Hyman, Paliwal, & Sinha, 2007).

Much of the research in this area has focused either exclusively on women or men, or on a heterogeneous population with comorbid alcohol, other substance use disorders, and stress-related conditions such as posttraumatic stress disorder (PTSD; Back, Sonne, Killeen, Dansky, & Brady, 2003; Ouimette, et al., 2000). Studies that have compared women and men have found mixed results (Dansky, et al., 1996; Farley, Golding, Young, Mulligan, & Minkoff, 2004; Rice et al., 2001), with some studies demonstrating gender differences in traumatic exposure (Farley et al., 2004; Rice et al., 2001) and trauma outcomes (Danielson et al., 2009), and others finding more similarities than differences between women and men in treatment for alcohol and cooccurring drug addictions (Dansky et al., 1996).

In order to address several gaps in the existing literature, we examined self-reported prevalence rates of exposure to traumatic life events in treatment-seeking women and men with alcohol dependence and other substance use disorders who did not have a current or lifetime diagnosis of PTSD. We also examined childhood and lifetime exposure to a wide range of traumatic events, thus, providing a more comprehensive assessment of trauma exposure than typically reported. Finally, we examined whether co-addiction (i.e., abuse or dependence) to cocaine and other stimulant drugs and gender have interactive effects on

trauma exposure, as there are reports that these relationships may be substance-specific (Back, Sonne, Killeen, Dansky & Brady, 2003).

Method

Participants

The present study examined the baseline data of 166 adult men and women who met the Diagnostic and Statistical Manual for Mental Disorders, 4th Edition, Text-Revised (DSM-IV-TR; American Psychiatric Association, 2000) criteria for alcohol dependence and who were screened for participation in a laboratory study investigating the influence of gender and alcohol dependence on neuroendocrine stress responsiveness (ClinicalTrials.gov Identifier: NCT00226694; Anthenelli, et al., 2010). Participants were excluded from the present secondary analysis if they met the DSM-IV-TR criteria for a current, independent mood, anxiety, psychotic or eating disorder, including a current or lifetime diagnosis of PTSD ($n = 20$); were lost to follow-up or withdrew consent prior to completing the trauma assessment ($n = 14$); or if they did not complete the diagnostic interview and all trauma assessment forms ($n = 26$). Thus, 106 women ($n = 53$, 50%) and men who were initiating or continuing a residential (85%) or mutual support outpatient treatment program (15%) comprised the sample; participants had been abstinent from alcohol a median of 65.5 days at the time of study enrollment. Participants ranged in age from 21 to 55 years. The sample was primarily Caucasian ($n = 58$, 55%) and a majority completed at least 12 years of education ($n = 71$, 67%). Additional demographic and clinical characteristic information is listed in Table 1.

Measures

Current and lifetime diagnoses of alcohol dependence and co-occurring psychiatric disorders were determined using the Semi-Structured Assessment for the Genetics of Alcoholism, Version II (Bucholz et al. 1994).

The Childhood Trauma Questionnaire -Short Form (CTQ-SF; Bernstein & Fink, 1998) is a reliable, valid (Thombs, Lewis, Bernstein, Medrano, & Hatch, 2007) 28-item measure that was used to assess childhood experiences of maltreatment. Its subscales reflect the domains of physical, sexual, and emotional abuse as well as physical and emotional neglect. The overall total score has a range of 25-125 and reflects the severity of trauma.

Both childhood (i.e., before age 18) and adulthood exposure to potentially traumatic events were further assessed using the Traumatic Life Events Questionnaire (TLEQ; Kubany et al., 2000). This 24-item measure covers lifetime exposure to 23 specific events, and includes one item that focuses on other unidentified traumatic events. For the purposes of these analyses, only the 23 items that assessed exposure to a specific, potentially traumatic event were utilized. For each traumatic event endorsed, follow-up questions inquired about the frequency of occurrence of the traumatic event and whether or not the event was associated with feelings of intense fear, helplessness, or horror. The TLEQ does not, however, make the assumption that each of the TLEQ events meets criterion A (i.e., the person was exposed to a traumatic event that was both threatening and evoked such an intense response) for a DSM-IV diagnosis of PTSD. Responses on the TLEQ were used to compute three subscores: (1) the number of TLEQ events endorsed; (2) the number of TLEQ events that evoked feelings of fear, helplessness, or horror; and (3) a conservative estimate of the number of discrete TLEQ events (i.e., responses to the individual TLEQ items ranged from 0 to 6 (0 = *never*, 6 = *six or more times*)).

Procedure

All study procedures received approval from the Institutional Review Board of the University of Cincinnati Medical Center and the Cincinnati Veterans Affairs Medical Center Research and Development Committee prior to implementation. Participants were recruited from local treatment facilities and the community through in-service presentations and advertisements. All participants reviewed and signed a written informed consent. Baseline assessments were administered by trained clinical research assistants and postdoctoral research fellows under the supervision of a board-certified psychiatrist.

Data Analysis

Gender differences on demographic and clinical characteristics were examined using chi-square tests of independence and analysis of variance (ANOVA). General linear models were used to determine the relationship between CTQ-SF Total and TLEQ scores and predictor variables (gender, cocaine/stimulant abuse or dependence and appropriate demographics). CTQSF and TLEQ assessments that were missing greater than 10% of responses were excluded from the analyses. SAS version 9.1 was utilized to conduct the data analyses.

Results

Demographic and clinical characteristics of the sample are presented in Table 1. The women were significantly younger, reported fewer years of education, and had the highest rates of lifetime diagnoses of cocaine/stimulant abuse or dependence. There was a trend ($p = .05$) for a higher proportion of Caucasians among men.

Childhood Exposure to Traumatic Events

Our examination of the total severity of childhood trauma ($n = 104$) revealed significant main effects for gender, $F(1, 97) = 9.74, p < .01; \omega^2 = .08$, co-addiction to cocaine/stimulants, $F(1, 97) = 10.91, p < .01; \omega^2 = .09$, and a gender by cocaine/stimulant addiction interaction, $F(1, 97) = 6.52, p < .05; \omega^2 = .05$, after controlling for age, race, and education. Alcohol dependent women without cocaine/stimulant addiction ($M = 76.2, SD = 15.8$) reported a significantly greater severity of childhood trauma than their male counterparts ($M = 54.7, SD = 17.0$), and women ($M = 56.1, SD = 16.4$) and men ($M = 52.2, SD = 15.6$) with cocaine/stimulant addiction.

Lifetime Exposure to Traumatic Life Events

We also examined a wide range of traumatic events encountered from childhood years to adulthood using the TLEQ. Alcohol dependent women reported more TLEQ events associated with feelings of fear, helplessness, or horror than men ($n = 94; p < .01$), but this difference was not evident when controlling for cocaine/stimulant addiction (and its interaction w/ gender), age, race and education. Alcohol dependent women did not differ from their male counterparts on the number of TLEQ events endorsed ($n = 98$), the number of traumatic events associated with feelings of fear, helplessness, or horror ($n = 94$), or overall rates of discrete episodes of traumatic events ($n = 97$).

Discussion

Similar to other studies in substance abusing treatment populations (Farley et al., 2004; Rice et al., 2001), we found gender differences in the severity of trauma exposure among alcohol dependent women and men without a current or lifetime diagnosis of PTSD. However, the observed gender differences were limited to childhood trauma, and the strength of the

relationship between gender and childhood trauma was affected by the diagnosis of comorbid cocaine/stimulant addiction. That is, on the CTQ, we found that alcohol dependent women without cocaine/stimulant addiction reported more severe childhood trauma than alcohol dependent men and women with cocaine/stimulant abuse or dependence. Taken together with previous work suggesting that cocaine-dependent women with PTSD have less severe trauma symptoms than alcohol-dependent women with PTSD (Back et al., 2003), we speculate that some more severely traumatized women may choose against stimulant drugs in preference of alcohol's brain depressant effects to avoid reexperiencing past traumas. The mechanisms underlying these relationships are unknown but may be attributable, in part, to the unique physiologic and behavioral effects of various substances on the brain's stress systems, and to gender differences in the relationship between trauma and the development of substance use disorders. To some extent, our findings extend the work of Back et al. (2003) by demonstrating that even among traumatized women without a comorbid diagnosis of PTSD, there is heterogeneity in the substance abuse patterns and trauma histories of such individuals that warrant clinical attention.

Our study has several noteworthy strengths as well as limitations. Using two empirically validated instruments, we assessed a broad spectrum of traumatic experiences in a well-characterized sample of alcohol dependent men and women without lifetime PTSD, a population in which trauma exposure and its effects are often overlooked in both research and clinical settings. At the same time, our focus on this special population of alcohol dependent men and women without a current, independent anxiety, mood, psychotic or eating disorder, most of whom were participating in a residential treatment program, consequently reduces the generalizability of the findings. Moreover, it does not allow for an examination of gender differences in the sequelae of trauma exposure, such as the development of PTSD and other trauma-related pathology, nor does it exclude the possibility that some individuals might have had subthreshold PTSD. It is also important to note that the finding of a high prevalence of trauma among the alcohol dependent men may be an artifact of heavy recruitment of male veterans. Other limitations include reliance on retrospective self-report of traumatic life events, which is subject to recall bias and under- or over-reporting (Briere, 1992; Simpson & Miller, 2002) and the absence of any clinician- or self-rated effects of trauma exposure or the extent to which the traumatic experiences were related to the onset and maintenance of alcohol or other substance misuse. Also, we acknowledge that the small number of alcohol dependent women ($n = 10$) without cocaine/stimulant abuse or dependence needs to be considered in interpreting the CTQ results. Additionally, because of the small sample size and concerns about multiple comparisons and Type I error, we did not conduct subscale-level analyses with CTQ data, so we were unable to determine whether findings differ based on the particular type of childhood maltreatment. Finally, we did not assess the age of onset of childhood abuse, which has been linked to long-term emotional and psychological functioning (Kaplow & Widom, 2007).

Despite the limitations of the present study, our study findings and methodological rigor extend the literature and have important clinical and research implications. Assessment of both trauma and substance abuse is rare in some clinical settings and many treatment seekers report an absence of trauma-related assessments during substance abuse treatment (Elhai, Gray, Kashdan, & Franklin, 2005). Accurate assessment and selection of appropriate interventions focused on the sequelae of trauma exposure can play an important role in addressing these risk factors for relapse and early termination from substance abuse treatment. Further, it may be necessary for substance abuse treatment programs to modify treatment programming to better address the gender-specific treatment needs of women and men with trauma histories. Finally, there is a great need for more research that illuminates gender differences in the risks and protective factors that moderate the link between trauma and mental health outcomes to better understand psychological resilience in trauma-exposed

individuals and to develop more effective strategies to prevent the development of stress-related disorders.

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Table 1

Demographics and Clinical Characteristics

	Men (<i>n</i> = 53)		Women (<i>n</i> = 53)		χ^2 (1) or <i>F</i> (1, 104)
	<i>M</i> or <i>n</i>	<i>SD</i> or %	<i>M</i> or <i>n</i>	<i>SD</i> or %	
Age	44.2	6.9	35.6	7.3	38.80***
Race (% Caucasian) ^a	34	64	24	45	3.81
Marital status (% married)	5	9	5	9	< 1
Education (highest grade completed)	12.8	1.7	11.9	1.8	8.14**
Cannabis abuse or dependence	27	51	25	47	< 1
Cocaine/stimulant abuse or dep.	21	40	43	81	19.09***
Other drug abuse and/or dep.	18	34	15	28	< 1
CTQ total score	52.9	12.2	60.5	18.3	6.27*
Emotional abuse	10.3	4.6	10.9	5.1	< 1
Physical abuse	9.5	4.2	9.8	5.3	< 1
Sexual abuse	6.3	3.4	11.0	6.9	19.54***
Emotional neglect	11.6	4.6	11.9	5.6	< 1
Physical neglect	7.4	2.5	8.8	3.4	6.18*
TLEQ events endorsed	7.3	3.2	8.1	4.2	1.04
TLEQ fear, helplessness, or horror) ^b	4.0	3.1	6.3	4.3	9.07**
TLEQ discrete events	18.7	12.9	23.0	14.3	2.47

Note. Diagnoses of cannabis abuse/dependence, cocaine abuse/dependence, and other drug abuse/dependence are lifetime DSM-IV diagnoses.
CTQ=Childhood Trauma Questionnaire;

TLEQ=Traumatic Life Events Questionnaire

^aNon-Caucasian participants consisted of 47 African-Americans and 1 Native-American.

^bCount of events evoking fear, helplessness, or horror

*
 $p < .05$.

**
 $p < .01$.

 $p < .001$.