The Relationship between Eating Disorder Examination Questionnaire Subscale Scores and Substance Use Severity in Women with Comorbid PTSD and Substance Use Disorders

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Abstract

Objective: Eating disorders (ED) and substance use disorders (SUD) commonly co-occur, especially in conjunction with PTSD, yet little is known about ED symptoms in women presenting to addiction treatment programs. We therefore examined the association between ED symptoms and substance use frequency and severity in a sample of women with comorbid SUD and PTSD enrolled in substance abuse treatment. **Method:** Participants were 122 women from 4 substance abuse treatment sites who participated in a multi-site clinical trial through NIDA's Clinical Trial Network (CTN). The Eating Disorder Examination-Questionnaire (EDE-Q) and the Addiction Severity Index (ASI) were administered at baseline. Nonparametric correlation coefficients (Spearman rho) between EDE-Q subscale scores and selected ASI variables were calculated using SPSS. **Results:** Scores on the Eating Concern, Weight Concern and Shape Concern subscales of the EDE-Q were significantly correlated with past 30 day opiate, cocaine, illicit methadone and polysubstance use, as well as the Addiction Severity Index Drug Subscale score and the number of days experiencing drug problems in the past 30 days. **Conclusion:** These findings suggest that there may be a relationship between addiction severity and eating disorder symptoms, particularly those involving weight and shape concerns in women with comorbid PTSD and SUD.

Background and Rationale

Eating disorders occur more frequently in substance abusing populations than in the general population. Women with an ED report use of alcohol and/or other substances for dietary restraint/avoidance, appetite suppression and compensatory behaviors (Piran & Robinson, 2007). The strongest associations between SUD and ED involve bulimic behaviors such as binge eating and purging (Spindler & Milos, 2007). Binge eating disorder, in which individuals binge eat without associated compensatory behaviors, is also more likely to co-occur in individuals with SUDs than those without (Carelo-Elvira et al., 2009). Women with PTSD and SUD who report binge eating behavior have more severe clinical course and worse treatment outcomes than those with PTSD and SUD who do not report any binge eating (Cohen et al., 2010).

Methods

The present study is a secondary analysis of a NIDA CTN study investigating the effectiveness of treatment for trauma and SUD in women presenting for treatment at community substance abuse treatment programs across the United States. Participants were female outpatients at seven psychosocial community treatment programs affiliated with the CTN. Participants were enrolled between 2004 and 2006. In total, 353 participants were randomized to receive 12 bi-weekly group sessions of either Seeking Safety or Women's Health Education. A subset of 122 women completed the Eating Disorder Examination Questionnaire (EDEQ) and the Addiction Severity Index (ASI)at baseline.

Outcome Definitions: The *Addiction Severity Index (ASI)* is a semi structured interview that assesses alcohol and substance use severity in seven different life domains that are typically affected by addiction. Past 30 day substance use, number of problem drug days and drug composite subscale score were selected variables.

The *Clinician Administered PTSD Scale (CAPS)* is a structured clinical instrument that measures frequency and intensity of signs and symptoms of PTSD, impairments in social and occupational functioning, and overall symptom severity over time. Lifetime traumatic events were assessed using the *Life Events Checklist*, a 17-item questionnaire.

The *Eating Disorder Examination Questionnaire (EDE-Q*), a self-report version of the structured interview, the Eating Disorder Examination (EDE), assesses specific behavioral and attitudinal features of ED psychopathology. The EDE-Q has been found to be an effective screening instrument for detecting the presence of eating disorder behaviors. It has a global score and four subscale scores including restraint, eating concern, shape concern and weight concern. The EDE-Q consists of 36 items and it focuses on the timeframe of the past 28 days.

Statistical Analysis: Descriptive statistics were used to describe the sociodemographic and clinical characteristics (Table 1). Nonparametric rank ordered correlation analyses were assessed by calculating Spearman rho correlation coefficients between EDE-Q total and subscale scores with ASI drug use frequency and severity variables. All analyses were performed using the Statistical Package for Social Sciences (SPSS) version 18.0. All tests were two-sided and performed at the significance level α=0.05.

TABLE 1. Sample Sociodemographic and Clinical Characteristics (N = 122)

Characteristic	Mean or % (SD)
Age (mean)	37.99 (9.96)
Race/ethnicity (%)	
African American	32.8 (40)
Caucasian	42.6 (52)
Latina	9.8 (12)
Multiracial and other	14.8 18
Marital status (%)	
Married	13.9 (17)
Single	38.6 (47)
Divorced/separated	47.5 (58)
Education (years)	12.43 (2.09)
Employed (%)	54.2 (194)
Most frequent substances used (%)	
Alcohol	66.4 (81)
Cocaine	72.1 (88)
Opioid	25.8 (31)
Lifetime trauma exposure (%)	
Physical abuse	93.1 (114)
Sexual abuse	62.9 (77)
CAPS scores (mean)	59.6 (18.4)

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TABLE 2. Correlation coefficients (Spearman rho) between EDE-Q global and subscale scores and ASI past 30 day drug use variables

	Restraint	Eating Concern	Weight Concern	Shape Concern	Global
Restraint	1.000				
Eating Concerns	.504**	1.000			
Weight Concerns	.521**	.762**	1.000		
Shape Concerns	.607**	.786**	.893**	1.000	
Global	.700**	.834**	.930**	.966**	1.000
Opioids	.112	.271*	.300**	.275**	.285**
Illicit Methadone	.129	.223*	.212*	.264**	.238**
Cocaine	-.110	.095	.184*	.136	.133
Amphetamine	.189*	.221*	.121	.172	.176
More than 1 drug per day	-.021	.205*	.243**	.254**	.232*
# problem drug days	.008	.196*	.260**	.181*	.187*
ASI Drug Composite Subscale	-.003	.214*	.245**	.194*	.195*

** p ≤ 0.007, *p ≤ 0.05

Results

There was a significant positive relationship between past 30 day opiate, methadone, cocaine and amphetamine use with EDEQ eating, weight and shape concern subscales. All of the EDEQ subscales scores except the restraint scale were significantly correlated to the use of more than one substance a day, the number of reported drug problem days, and ASI drug composite subscale scores (Table 2).

Past 30 day cocaine use was significantly correlated with the number of overeating (OE) and subjective binge eating episodes (SBE) in those participants who reported past 30 day binge eating (N = 35, r = 0.47, p = 0.005 for OE and r = 0.35; p = 0.03 for SBE).

Conclusion

Women in recovery from SUD and PTSD may be at risk for disordered eating behaviors including the use of substances to cope with concerns related to weight, shape and eating as well as using cocaine or other stimulant drugs to control binge eating. Additional research is needed to the further explore the relationship between SUD/ED. Assessing for and addressing eating disorder behaviors in recovery may improve substance abuse outcomes. Comprehensive and integrated treatment approaches need to be developed to address this complex but common comorbidity.

References

1. Piran N. & Robinson SR. (2006). Associations between disordered eating behaviors and licit and illicit substance use and abuse in a university sample. *Addictive Behaviors*, 31(10**),** 1761–1775.
2. Calero-Elvira A. et al. (2009). Meta analysis on drugs in people with eating disorders. *Eur Eat Disorders Rev*, 17, 243-259.
3. Cohen L. et al. (2010). Survey of eating disorder symptoms among women in treatment for substance abuse. *Am J Addictions,* 19: 245–251.
4. Spindler A. & Milos G. (2007). Links between eating disorder symptom severity and psychiatric comorbidity, Eating Behaviors, 8, 364-373.