

Correlates of nonmedical use of prescription drugs among patients with co-occurring anxiety and substance use disorders

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INTRODUCTION

Background

- The co-occurrence of anxiety and substance use disorders (SUDs) is common among both community and clinical samples, and is associated with a wide range of adverse health outcomes (Stewart & Conrod, 2007).
- Recently, the rates of nonmedical use of prescription drugs (NMUPD) have dramatically increased, with 4-11% of adults reporting past year NMUPD (NIDA, 2015).
- NMUPD occurs when prescription medications are obtained from a non-medical source (e.g., a friend), not taken as prescribed (e.g., more than the prescribed dosage), or used for a nonmedical or recreational purpose (e.g., to get high, stay up later; Kelly et al., 2015).
- Elevated levels of anxiety symptoms have been posited as significant vulnerability of NMUPD in youth. Data collected from over 43,000 individuals found that those with a history of an anxiety disorder were more likely to develop NMUPD than those without a history of anxiety (Blanco et al., 2007).
- Despite increased rates of NMUPD among individuals with anxiety disorders (Huang et al., 2006), few studies have examined factors associated with anxiety disorders and NMUPD.

Aim and Hypothesis

- The purpose of the current study was to examine correlates of NMUPD among substance dependent inpatients with anxiety disorders. Relevant correlates were identified based on prior research examining anxiety and substance use (Jeffers et al., 2015), and include sensation seeking (i.e., the openness to trying new experiences that may or may not be dangerous), negative urgency (i.e., the propensity to respond impulsively to negative affect), depression, stress, and anxiety sensitivity (i.e., the fear of anxiety-related sensations).
- We hypothesized that individuals who reported higher sensation seeking, negative urgency, depression, stress, and anxiety sensitivity would be more likely to report NMUPD than those who reported lower symptoms.

METHOD

Participants

- Participants were patients in a residential substance dependence treatment facility who met criteria for at least one anxiety disorder. DSM-IV anxiety disorder diagnoses were established using the Structured Clinical Interview for DSM Disorders (SCID-I) and the Clinician-Administered PTSD Scale (CAPS).
- Participants were receiving treatment for cocaine dependence (11.9%), alcohol dependence (35.6%), or combined alcohol and cocaine dependence (52.5%).
- The final sample ($N = 104$) was half female (51.9%), predominantly White (64.4%), and the mean age was 33.88 years ($SD = 10.12$).
- Most participants reported current unemployment (72.1%), an annual income of < \$10,000 (46.6%), and at least a high school education (75%).

Measures

- Anxiety Sensitivity:** *Anxiety Sensitivity Index-3* (ASI-3; Taylor et al., 2007).
- NMUPD:** *Drug Use Questionnaire* (DUQ; Hien & First, 1991).
- Sensation Seeking & Negative Urgency:** *UPPS-P Impulsive Behavior Scale* (UPPS-P; Whiteside & Lynam, 2001).
- Depression & Stress:** *Depression Anxiety Stress Scale* (DASS-21; Lovibond & Lovibond, 1995).

Procedure

- Data were collected from a larger study examining risk-taking behaviors and psychopathology among patients in a residential SUD treatment facility.
- Participants had to meet the following criteria: (a) current anxiety disorder diagnosis (per the CAPS and SCID-I), (b) absence of psychotic symptoms, (c) a score of ≥ 24 on the Mini-Mental Status Exam (Folstein et al., 1975), and (d) completion of all questionnaires relevant to the current study.
- During the study session, trained research assistants administered the CAPS and SCID-I, and participants completed a battery of questionnaires. Participants received \$25 for participation.
- All procedures were approved by the University of Mississippi Medical Center's Institutional Review Board.

RESULTS

Descriptive Statistics

- Anxiety:** 65.5% of participants met criteria for multiple anxiety disorders. Generalized anxiety disorder was the most common diagnosis (48.1%), followed by posttraumatic stress disorder and panic disorder (44.2% each), social anxiety disorder (39.4%), and obsessive-compulsive disorder (21.2%).
- NMUPD:** 57.7% of participants reported past year NMUPD. Opioid pain medications were the most commonly misused (34.6%), followed by anxiolytics (17.3%), and stimulants (6.7%).
- See Table 1 for zero-order correlations.

Table 1. Zero-Order Correlations of Study Variables.

	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Age	-								
2. Race	-.064	-							
3. Sex	-.039	-.009	-						
4. Sensation Seeking	-.424***	.282**	.331**	-					
5. Negative Urgency	-.036	.069	-.056	.342***	-				
6. Depression	-.071	.041	.130	.221*	.239*	-			
7. Stress	-.104	.160	.147	.201*	.316**	.810***	-		
8. Anxiety Sensitivity	-.031	-.097	-.024	.070	.385***	.486***	.494***	-	
9. NMUPD	-.327**	.461***	.279**	.449***	.270**	.099	.140	-.012	-
Mean	24.60	0.64	0.48	2.70	2.97	14.37	16.25	24.60	0.58
SD	17.06	0.48	0.50	0.62	0.48	11.52	110.73	17.06	0.50

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Logistic Regression

- A multivariable logistic regression analysis was used to ascertain the relations of age, race, sex, sensation seeking, negative urgency, depression, stress, and anxiety sensitivity to past year NMUPD (Table 2).
- The model was statistically significant and explained 56% (Nagelkerke R^2) of the variance in NMUPD.
- Only age, sex, race, and negative urgency were significantly associated with past year NMUPD.

Table 2. Logistic Regression of the Correlates of NMUPD.

Variable	B	SE	p	OR	95% CI
Age	-0.09	0.03	<0.01	0.92	[0.86-0.98]
Race ¹	2.66	0.66	<0.001	14.26	[3.92-51.94]
Sex ²	1.91	0.66	<0.01	6.76	[1.87-24.47]
Sensation Seeking	0.09	0.60	0.88	1.09	[0.34-3.47]
Negative Urgency	1.75	0.67	<0.01	5.73	[1.56-21.07]
Depression	0.03	0.05	0.58	1.03	[0.94-1.12]
Stress	-0.03	0.05	0.52	0.97	[0.88-1.07]
Anxiety Sensitivity	-0.01	0.02	0.49	0.99	[0.95-1.02]

Note: ¹reference group = White; ²reference group = men

CONCLUSION

- In the current study, demographic characteristics including age, sex, and race were significant correlates of NMUPD, such that younger individuals were less likely report past year NMUPD, men were 6.76 times more likely to report past year NMUPD than women, and individuals who were White were 14.26 times more likely to report past year NMUPD compared to racial minorities.
- Negative urgency was the only psychological variable that was a significant correlate of NMUPD among individuals with co-occurring anxiety and SUDs. Specifically, the likelihood of past year NMUPD increased by 5.73 as one's propensity to impulsively respond to negative emotions increased.
- These findings highlight the importance of negative urgency, relative to other emotional and behavioral mechanisms, in past year NMUPD among patients with co-occurring anxiety and SUDs.
- The current study is limited by the cross-sectional study design. Prospective and longitudinal studies would inform the directionality of the development of mental disorders, negative urgency, and NMUPD. In addition, this method could be beneficial in identifying negative urgency as a potential mediator.
- The clinical nature of this sample is a strength, but it also limits generalizability due to the specificity of the sample. Therefore, replication in samples without or only with anxiety or SUDs may be beneficial for understanding risk factors.
- These findings have direct clinical implications, wherein it may be beneficial for prevention and intervention programs to use race, sex, and negative urgency to identify individuals at risk for NMUPD.